

EDUCATIONAL SUPPLIES and EQUIPMENT

*For Faculty and
Student Use in
Colleges and Schools*

- ENGINEERING
- MATHEMATICS
- SCIENCE
- TECHNOLOGY
- ARTS

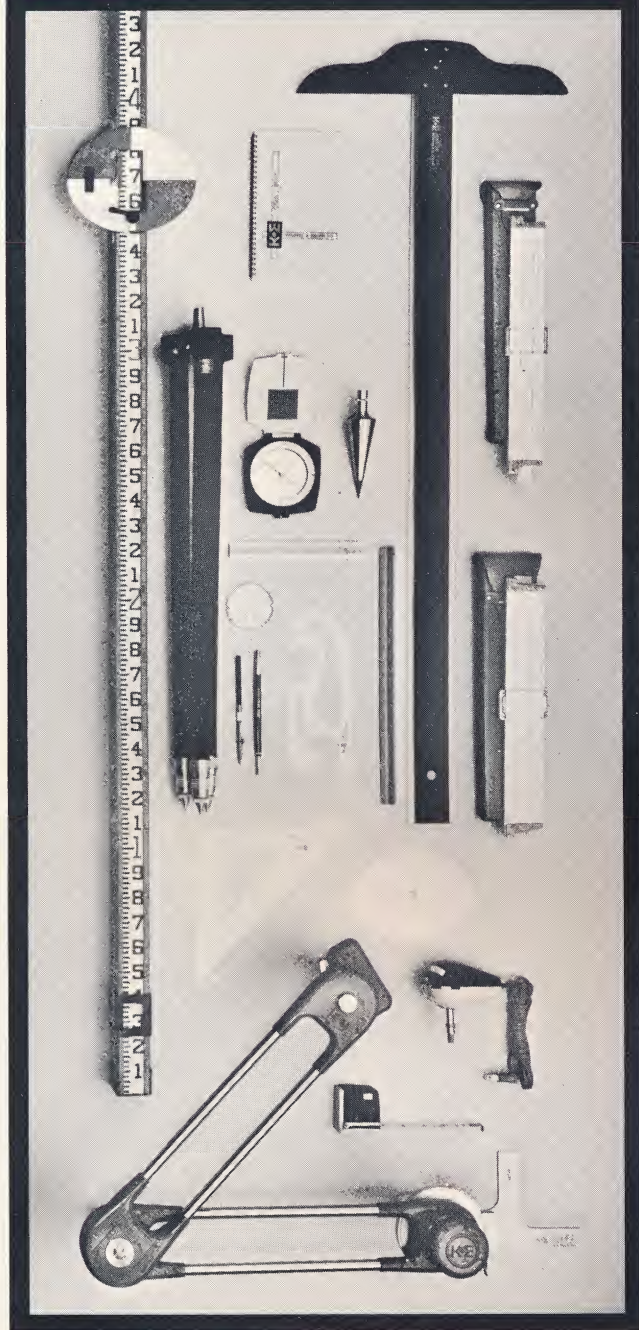


educational division
KEUFFEL & ESSER CO.



Your

1963-64 K&E



Educational Supplies & Equipment Catalog

SEEING... HEARING... DOING

Virtually all the vital information that comprises, in the end, a modern education comes to you by means of your eyes—seeing—and your ears—hearing. This is further strengthened by the discipline of doing.

Today the innovations in the techniques of sight and sound make education a more adventurous experience than was ever dreamt a few generations ago.

Modern technology continues to produce new tools to further the course of education. Many of them are listed in this K&E supplies guide. If your interests are in the areas of science, mathematics, engineering or technical subjects, then you will find the products shown and described here especially useful.

KEUFFEL & ESSER CO.

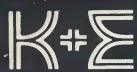
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SLIDE RULES

CALCULATE WHEREVER YOU CIRCULATE

The engineer is a cool, calculating sort. He's the type of fellow who likes to hear that little "click" inside his skull when all the pieces of a problem or equation drop into place. He has an unabashed fondness for efficiency.

Perhaps it's this love affair with efficiency which accounts for the popularity of the slide rule with engineers of all kinds, student and professional. The average engineer is never without his slide rule. It's his badge, his totem, his magic wand. This simple little gadget almost becomes an extension of the engineer himself. And with it he can pull the most remarkable solutions out of the air with seemingly the utmost of ease.

Being able to calculate wherever you circulate is one of the joys of being a slide rule user. Usually the way it's accomplished is to own

two rules — one with 10 inch scales which resides comfortably on your desk, and the other with five-inch scales which rides easily in your coat or shirt pocket. When you want an answer (in some cases, an approximate one, since the slide rule makes no pretensions at total accuracy) the trick then is to whip out your rule — push, pull, set the indicator, read the answer. And believe it or not the problems can be amazingly complicated and still yield easily to the slide rule. (Try multiplying one four digit number by another in your head — or even on paper. It's duck soup with a slide rule. You can have the answer in seconds.)

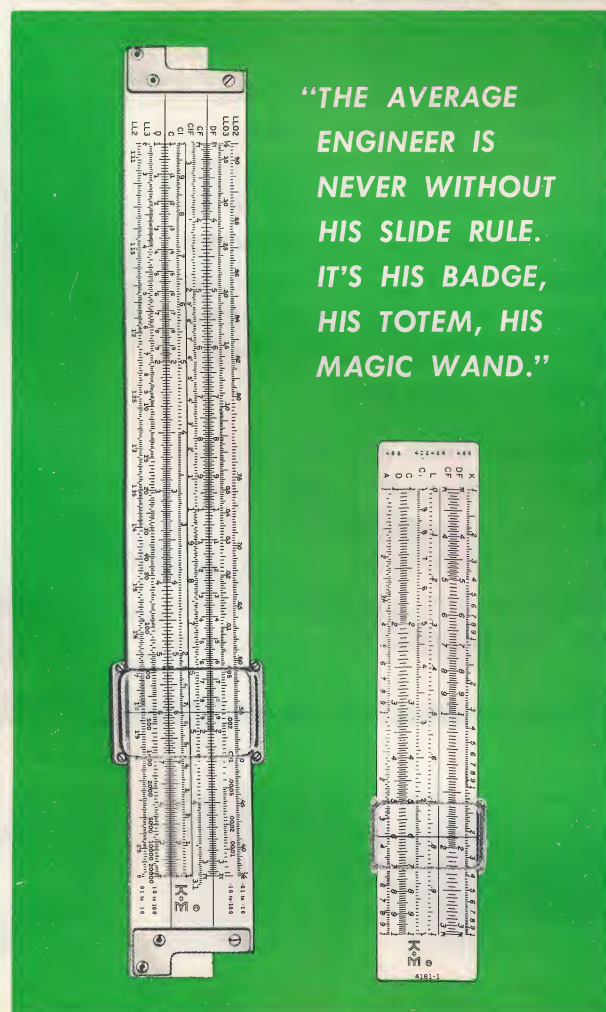
YOU DON'T HAVE TO BE A WIZARD

Incidentally, don't let anybody tell you that you have to be a mathematical wizard to work a slide rule. Just the opposite is the case. Anybody who can add can be a slip-stick expert of the first rank.

Now, the question probably has come to mind: Are there different types of slide rules, and if so, what one is best for me? The answer is: yes, there are many types of slide rules. They tend to fall into special purpose and general purpose categories. For the student, K&E believes that the ideal rule is a general purpose type such as the new DECI-LON® rule. With this rule you can solve problems in any field of engineering — chemical, civil, electrical, nuclear — or any field of business. Math is math in all fields and the DECI-LON Slide Rule embraces a broad, complete range of scales to supply the answers to virtually any mathematical calculation you'll encounter.

The other K&E rules — JET-LOG® and DECI-TRIG® slide rules, as well as the less complex JET MATH™ and K-12 PREP® rules — are all of the general purpose type. Whichever you choose you can be sure of having a modern, efficient, long-lived little calculator.

And the K&E name is the most widely known and preferred name in slide rules and all other engineering supplies. When you buy K&E — you can be sure you're buying the finest.



**"THE AVERAGE
ENGINEER IS
NEVER WITHOUT
HIS SLIDE RULE.
IT'S HIS BADGE,
HIS TOTEM, HIS
MAGIC WAND."**

DECI-LON[®]

Here's the next logical step in slide rule evolution from K&E, the company that made slide rules famous. DECI-LON is the most efficient, most versatile slide rule yet developed.

More and more, higher mathematical analysis becomes a part of the engineering-science professions. The higher you go in your profession, the more you'll use higher math . . . and the more you'll need DECI-LON.

Only DECI-LON can offer you the BIG THREE features . . .

1. LONS . . . powerful logarithmic scales that are "naturals" (to the all-important base e) . . . The unique K&E arrangement puts four Lon scales on the rule's front face, four Lon Minus scales on the reverse, graduated for numbers from 1.001 to 30,000 and for decimal fractions from 0.00003 to 0.999. Invaluable for use in nuclear physics, space navigation, electronics, engineering economics, and finance.

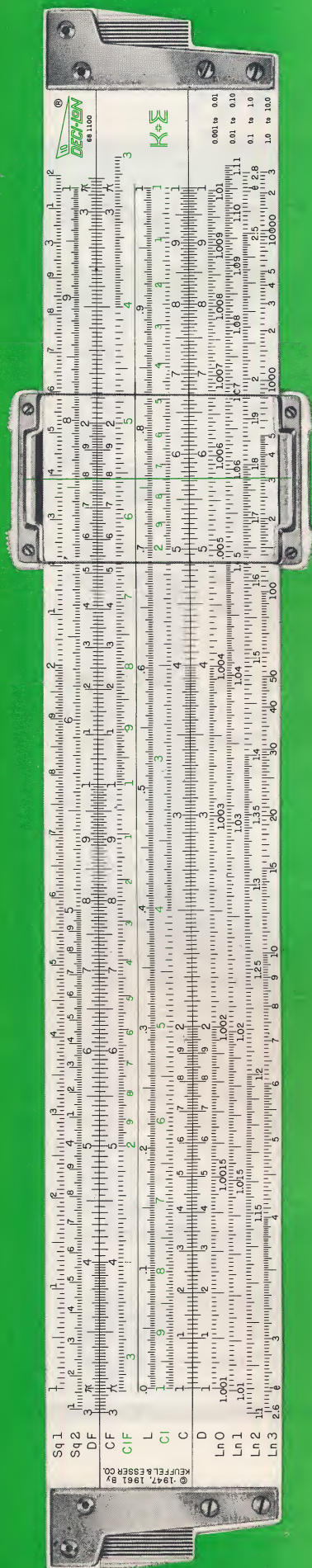
2. LOGIC . . . the more logical and consistent a slide rule is, the faster you'll learn to master it. DECI-LON achieves the ultimate in consistency and logic — all scales of calculation refer to the basic D scale . . . color meaning is built into scales, faces, and reading direction . . . scale names describe scale functions. Everything on the rule is working to build "reflex" operation . . . you'll *automatically* develop slide rule skill.

3. LOOKS . . . DECI-LON looks different because it is different. Its new "designer" styling results from the unique choice and arrangement of its scales . . . "form follows function" and a new look in slide rules is born. Slim and trim, pleasing to the eye, it's also well-balanced and a breeze to manipulate.

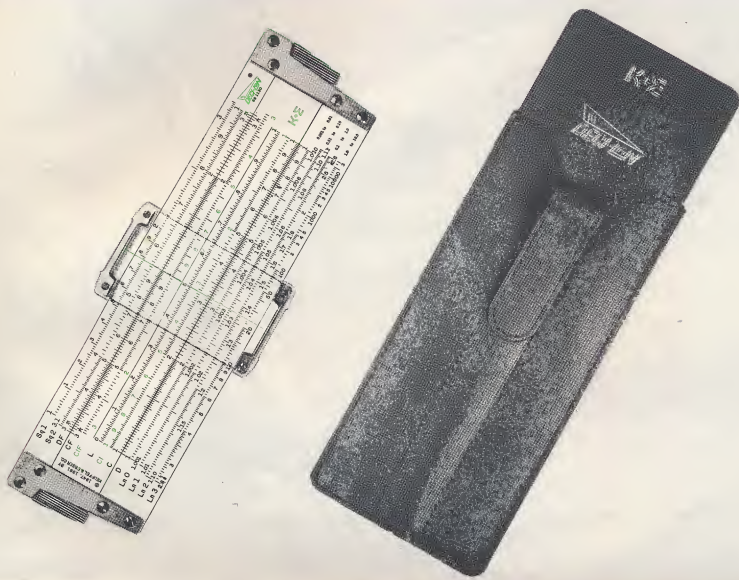


CARRYING CASE
AND BELT CARRIER

No. 68 1100 DECI-LON, 10-inch model. Complete with custom-fitted chamois-lined carrying case of top-grain leather, theft-proof belt loop carrier, and complete hard cover instruction manual.



The **NEW** Engineering-Science SLIDE RULE

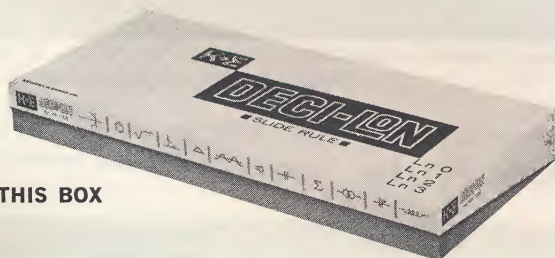


POCKET DECI-LON No. 68 1130 All the scales of the full-size DECI-LON in handy, pocket size. With top grain leather clip-on sheath. The perfect traveling companion for labs, field-trips, and any occasion when you'll want to do your calculating on the spot.



INSTRUCTION MANUAL Over 190 pages ...everything you'll need to know about using DECI-LON. Special visual summaries make this manual easier to follow and more helpful as a reference work.

No. 68 2069 — if ordered separately



LOOK FOR THIS BOX

COMPUTING CAPABILITY PLUS!

Only DECI-LON combines all the scales needed for the student and professional. Eight natural log log scales—Lon and Lon Minus; new Sq scales for square roots, along with A & B scales for fourth-power and root computations; a complete roster of trig scales—S, T and SRT; and all arranged for maximum effectiveness.

OTHER FEATURES

● LIFETIME GUARANTEE

Precision molded of a special shatterproof synthetic developed by K&E, DECI-LON is built for a lifetime of use, and is guaranteed to give it.

● WON'T WARP, CRACK OR STICK

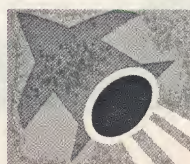
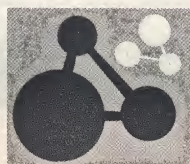
Humidity conditions in the air have no effect on DECI-LON's operation. Works in any climate, anywhere—never needs special adjustments or lubrication.

● PERMANENT ALIGNMENT

Special four-bolt end plates, exclusive with DECI-LON, help assure permanent, accurate alignment.

● NEW INDICATOR DESIGN

DECI-LON is equipped with an improved, non-breakable indicator. Red hair line provides sharp contrast with the black graduations of the rule.



10-INCH SCALES FOR YOUR DESK

Jet-log®

DUPLEX DECITRIG SLIDE RULE

68 1251 Fully consistent scale system of the DECITRIG type, developed by K&E and used by professionals for over a generation. Trigonometric scales divided to represent degrees and decimals of a degree.

On the front face are the LL02, LL03, DF, CF, CIF, CI, C, D, LL3 and LL2 scales.

On the reverse face are the LL01, L, K, A, B, T, SRT, S, D, DI and LL1 scales.

Legends to the right of the trig and log log scales are very useful in determining which scale to use in reading a value.

FEATURES:

- Precision graduations.
- Made of exclusive IVORITE®, the special K&E synthetic for slide rules.
- Color coded for reading ease.
- Non-breakable indicator.

With leather case, belt-loop carrier, hard-cover instruction manual. Unconditional lifetime guarantee.

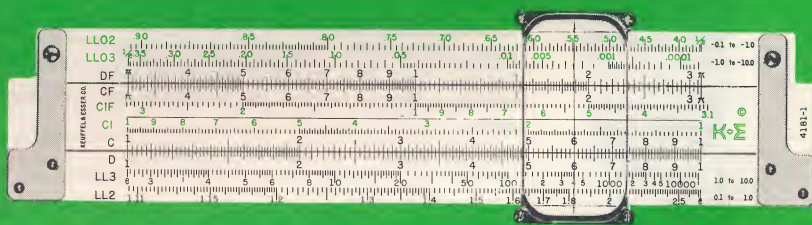


Jet-log® jr.

SLIDE RULE

68 1261 Pocket-sized counterpart of the JET-LOG, with all the same scales in abridged version. Ideal for the man on the go. Comes in leather covered sheath, with leather covered spring clip. Also bears an unconditional lifetime guarantee.

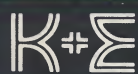
5-INCH SCALES FOR YOUR POCKET



JET MATH™ Polyphase Slide Rule

68 1576 An ideal rule for the technical or business student. 10-inch IVORITE, with unbreakable indicator. On the front face are K, DF, CF, L, CI, C, D and A scales. On the reverse of the slide are T, ST, S and C scales. Inch scales, divided to 1/16ths on one edge; centimeter scale divided to millimeters on the other. Conversion factors on reverse side. In case with instruction manual.





OTHER SLIDE RULES

DECITRIG® SLIDE RULE

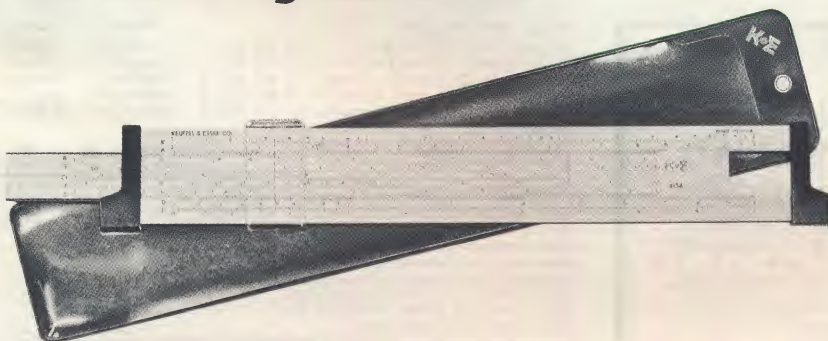
68 1210 An exact counterpart of the scale system of the JET-LOG Slide Rule, but with engine divided graduations on white facings and a mahogany body, the traditional slide rule material favored by some students and professionals. In special college package with sewed leather case, belt loop, hard-cover instruction manual.

68 1215 Same as 68 1210, but without belt loop carrier; soft cover instruction manual.

68 1220 Same as 68 1215, but in sturdy synthetic case, rather than leather.

NEW K-12 PREP® SLIDE RULE

The ideal beginner's rule



68 1892 Any student can learn to save time and reduce the work of solving mathematical problems with the K-12 PREP. A full 10-inch scale system (K, A, B, S, CI, T, C, D and L), all on one side. Made of non-warping durable vinyl. Graduations indented for permanence. In plastic sheath with clear, concise instruction manual.

POCKET SLIDE RULES

While JET-LOG Jr. is the slide rule most engineers prefer, perhaps one of these less complex rules will match your course of study.

For multiplication, division, proportion, logarithms, squares, square roots, cubes, cube roots and trigonometric functions.

68 1555 Adjustable, Plastic, 5 in. On the front are the DF, CF, CI, C, D and L scales. On the reverse are the K, A, B, ST, S, D and T scales. Unbreakable indicator and leather pocket sheath with instructions.

68 1550 Same as 68 1555, but in leather sheath with a permanent pocket clip.

For multiplication, division, proportion, logarithms, squares, square roots, cubes, cube roots and trigonometric functions.

68 1586 Plastic, 5 in. On the body (on the front) are the K, DF, D and A scales. On the front of the reversible slide are the CF, L, CI and C scales; on the back the T, ST, S and C scales. Unbreakable indicator and leather pocket sheath, with instructions.

68 1581 Same as 68 1586, but in leather sheath with a permanent pocket clip.

68 1648 Plastic, 5 in. On the body (on front) are the A, D and K scales. On the front of the reversible slide are the B, CI and C scales; on the back the S, L and T scales. Unbreakable indicator and leather pocket sheath with instructions.

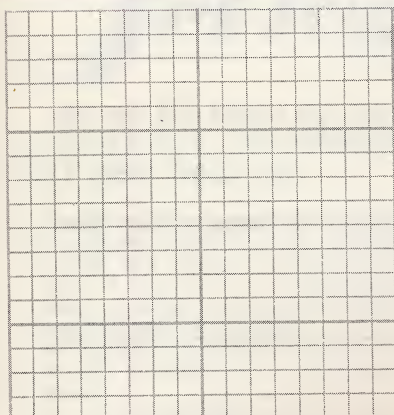
68 1643 Same as 68 1648, but in leather sheath with permanent pocket clip.

For multiplication, division, proportion.

68 1791 Plastic, 5 in. This slide rule has the DF, CF, CI, C, D and L scales. Unbreakable indicator and leather pocket sheath, with instructions.

68 1786 Same as 68 1791, but in leather sheath with a permanent pocket clip.

K&E **GRAPH SHEETS** FOR GRAPHICS... MATH... AND ALL THE SCIENCES



Engineers, scientists and mathematicians use graphs to simplify complex problems. In addition to the familiar square-ruled sheets, they use logarithmic and polar-co-ordinate sheets, plus highly specialized graph papers for plotting probabilities, hyperbolic relationships, electronic phenomena, and other mathematical ratios.

Architects, draftsmen, surveyors and construction engineers have their own specialized graph forms—isometric and perspective sheets, profile plan charts, stadia sheets and others.

Obviously, when working with graph sheets, it's imperative that they be perfectly accurate. You can rely on K&E sheets for this accuracy.

It's not possible here to detail the many patterns and styles we make. For this may we suggest you look through the booklet "K&E Graph Sheets" at your nearby K&E dealer's or college store, or write to K&E for a copy of the K&E Graph Sheet Guide.

SQUARE SECTIONS

8½ x 11 inch sheet, 7 x 10 inch plate

Lines per inch	Drawing Paper, Green Ink	Tracing Paper, Green Ink	Tracing Paper, Orange Ink	Lines Accented
4 x 4	46 0250		46 0253	1 in.
5 x 5	46 0410	46 0412	46 0413	1 in.
8 x 8	46 0540*	46 0542	46 0543*	1 in.
10 x 10	46 0700*	46 0702*	46 0703*	1 in.
10 x 10	46 0860*	46 0862*	46 0863	½ in.
16 x 16	46 1120*		46 1123*	¼ in., ½ in.
20 x 20	46 1240*	46 1242*		¼ in., ½ in., 1 in.
20 x 20†	46 1470	46 1472	46 1473	¼ in., ½ in.
8½ x 11 inch sheet, 18 x 25 cm plate				
Millimeters	46 1510*	46 1512*	46 1513*	5 mm, 1 cm.

*Also available in sheets 11 x 16½ in.; plate 10 x 15 in.

†Plate 7½ x 10 in.

SEMI-LOGARITHMIC

8½ x 11 in. sheet. Plate 10 in. log side x 7 in. uniform side.

Drawing Paper, Green Ink	Tracing Paper, Green Ink	Tracing Paper, Orange Ink	Log Cycles	Length of Cycle	Uniform Scale Division	Lines Accented
46 4650	46 4652	46 4653	1	10 in.	10 to 1 in.	5th
46 4970*	46 4972*	46 4973	2	5 in.	10 to 1 in.	5th
46 5130	46 5132	46 5133	2	5 in.	10 to ½ in.	5th
46 5490*	46 5492*	46 5493†	3	3½ in.	10 to 1 in.	5th
46 5730*		46 5733*†	3	3½ in.	6 to ½ in.	5th
46 5810*		46 5813*†	3	3½ in.	10 to ½ in.	5th
46 6010*	46 6012*	46 6013	4	2½ in.	10 to 1 in.	5th
46 6210	46 6212	46 6213	5	2 in.	10 to 1 in.	5th

*Also available in sheets 11 x 16½ in.; plate 10 x 15 in.

†11 x 16½ in. size sheets also available in tracing paper, green ink (47 5732 and 47 5812.)

FULL LOGARITHMIC

8½ x 11 in. sheet (Sheets marked * are 11 x 16½ in.)

Drawing Paper, Green Ink	Tracing Paper, Green Ink	Tracing Paper, Orange Ink	Log Cycles	Plate Size
46 7000	46 7002	46 7003	1 x 1	7½ x 7½ in.
47 7000*		47 7003*	1 x 1	9.85 x 9.85 in.
46 7200	46 7202	46 7203	2 x 2	7½ x 7½ in.
47 7200*		47 7203*	2 x 2	10 x 10 in.
46 7320		46 7323	2 x 3	6½ x 10 in.
47 7320*	47 7322*	47 7323*	2 x 3	10 x 15 in.
46 7400	46 7402	46 7403	3 x 3	7½ x 7½ in.

SPECIAL PURPOSE

8½ x 11 sheet

Polar Co-Ordinate

Divided to single degrees, numbered every 10 degrees in both directions. Ordinates divided to 10 parts to the inch. Outside of main engraving are 2 scales divided 10 parts to the inch, one on long dimension and one on short dimension.

Fluxolite Paper

For rapidly determining results in lighting problems, as flux determinations, flux in light beams, etc.: for mapping space relations between light source and points of illumination; and for point by point method of illumination calculation.

Triangular Co-Ordinate

All 3 dimensions divided into 100 parts, each properly numbered at every 5th division. For plotting a curve composed of 3 variables whose sum is always constant.

Circular Percentage

3 Circles—one 6 in. dia., circumference divided into 100 divisions, with 2 parts to each division, numbered from 0 to 100; two 2 in. dia. with circumference divided into 100 parts, numbered 0 to 100. For "pie" charts, showing percentages by sectors.

Reciprocal Ruling or Hyperbolic

Reciprocal ruling long side, 120 equal divisions short side, 5th lines accented, 10th lines heavy. For plotting gas and electric rates, etc.

Same. 130 equal divisions short side.

Perspective

†Sheet size 11 x 16½ in.

Probability* x Logarithmic

3 cycles, with Probit Scale.

Probability* x 90 Divisions

5th lines accented, 10th lines heavy.

Probability* x Logarithmic

2 cycles (short side).

*The Probability scale is based on the normal law of error.

Trig Function Data Sheet

For trigonometry, analytic geometry (polar co-ordinate) and calculus. Tables give values of principal trigonometric functions and of radians for intervals of 15° around the entire circle. Blank spaces for additional data.



SPECIAL PURPOSE PAPERS, CLOTHS AND FILMS

You'll be working in a world of words, figures, diagrams. You'll require not just one type of paper, but many . . . drawing papers, tracing papers, typing papers, general-purpose papers, special-purpose papers . . . K&E has them all.

How to choose? Remember that the nature and the importance of the work you are going to do should determine your choice of paper and how much you should spend for it. The better the paper, the better it will stand up to work and wear, the better it will be to work on, and the better your work will look.



ALBANENE®

PENCIL SURFACE TRACING PAPER

ALBANENE—with micro-engineered surface—is the largest selling drafting room paper in the world. Made entirely of new, high-strength pure 100% rags, to exclusive K&E specifications, there is no other tracing paper like it. It is stabilized, and permanently transparentized—will not bleed, turn brittle or lose its transparency . . . ever.

Thickness .0025 in.

10 5155 Sheets, sizes to order, plain or imprinted.

10 5155 Rolls, 5 yds., 18 in., 21 in., 24 in., 36 in., 42 in.

20 yds., 30 in., 36 in., 42 in.

50 yds., 24 in., 30 in., 34 in., 36 in., 40 in., 42 in., 54 in.

ALBANENE

PENCIL & INK SURFACE TRACING PAPER

With all the fine qualities of the standard paper, plus a special surface engineered for ink acceptance.

Thickness .0025 in.

10 7155 Sheets, sizes to order, plain or imprinted.

10 7155 Rolls, 20 yds., 30 in., 36 in., 42 in.

50 yds., 30 in., 36 in., 42 in.

ALBANENE

GUIDE LINE TRACING PAPER

Fast gaining acceptance in industry . . . already popular on the engineering campus: ALBANENE with faint-printed cross section lines. Facilitates fast freehand sketching and detail drawing . . . and the lines drop out when reproductions are made.

Rolls 30, 36 & 42 inches wide

No.	Cross Section	Length
10 5535	8 x 8 to 1 in.	20 yds.
10 5535	8 x 8 to 1 in.	50 yds.
10 5545	10 x 10 to 1 in.	20 yds.
10 5545	10 x 10 to 1 in.	50 yds.

CRYSTALENE®

TRACING PAPER

A fine quality tracing paper, with excellent pencil and ink acceptance, easy erasure. Made of very strong 100% high grade rag stock.

Thickness approx. .0027 in.

10 8155 Sheets, sizes to order, plain or imprinted

10 8155 Rolls, 5 yds., 18 in., 21 in., 24 in., 36 in., 42 in.

20 yds., 24 in., 30 in., 34 in., 36 in., 42 in., 54 in.

50 yds., 24 in., 30 in., 34 in., 36 in., 42 in., 54 in.

Thickness approx. .0030 in.

10 8156 Sheets, sizes to order, plain or imprinted

10 8156 Rolls, 20 yds., 30 in., 34 in., 36 in., 42 in.

50 yds., 30 in., 34 in., 36 in., 42 in.

PHOENIX®

TRACING CLOTHS

PHOENIX is a superior tracing cloth recommended for quality tracings and tracings that are to be reproduced. It has excellent pencil take (up to 6H), ink take and typewriter take. Impressions stay on the surface—you can erase all three with equal ease. PHOENIX is completely moisture-proof; in fact, surface soiling is easily removed when wiped with a moist cloth. PHOENIX resists heat and aging and turns out razor sharp reproductions time and again.

BLUE

17 0453 Sheets, sizes to order, plain or imprinted

17 0453 Rolls, 20 yds., 30 in., 36 in., 42 in.

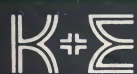
WHITE

17 0153 Sheets, sizes to order, plain or imprinted

17 0153 Rolls, 20 yds., 30 in., 36 in., 42 in., 54 in.

STABILENE® FILM

For that special project . . . when you need dimensional stability. This tough, versatile film is widely used in industry for the preparation of such work as: printed circuitry, multicolor maps, aircraft and automotive lofting layouts, offset printing and production of precision tools and templates. More than 20 types of film surfaces are available.



SPECIAL PURPOSE PAPERS

LAMINENE®

Put a hard, smooth, easy-to-work-on surface on your old drawing board — or if it's new, protect its surface with LAMINENE, the K&E-exclusive surface cover material. You can keep LAMINENE clean with a wipe of a moist cloth or sponge.

58 1330 Green, rolls, 20 yds., 36 in.
50 yds., 42 in.

LAMINENE WITH CROSS SECTION LINES

LAMINENE with cross section lines provides a continuous two-way scale under tracings, serving as a guide in laying out drawings, plotting curves, checking lengths, etc. Lines are 8 x 8 to the inch, 8th line heavy.

58 1348 Green, rolls 20 yds., 36 in., engraving, 35 in. wide
42 in., engraving, 35 in. wide

Also available in 10 x 10

TYPE-MASTER®

PREPARED TRACING PAPER

A specially engineered surface for clear typewriter impressions and non-fuzzy erasures, high translucency for fast reproductions.

13 3155 thickness: .0025 in. approx.
weight: base, sub 14; finished, sub 17
sheets: 8½ x 11 in.
11 x 17 in.
17 x 22 in.
Other sizes to order, plain or
imprinted, to your specifications.
rolls: 50 yds.; 30 in., 36 in., 42 in.

DORIC® DRAWING PAPER

A good quality drawing paper at an economical price — ideal for students and other uses.

15 2155 White (medium wt.) Sheets, 9 x 12 in.
11 x 15 in.
19 x 24 in. } 500/pkg.

22 x 30 in. } 250/pkg.
24 x 36 in. }

Rolls, 50 yds.
36 in. 42 in.

15 7155 Cream (medium wt.) Sheets, 9 x 12 in.
11 x 15 in.
19 x 24 in. } 500/pkg.

22 x 30 in. } 250/pkg.
24 x 36 in. }

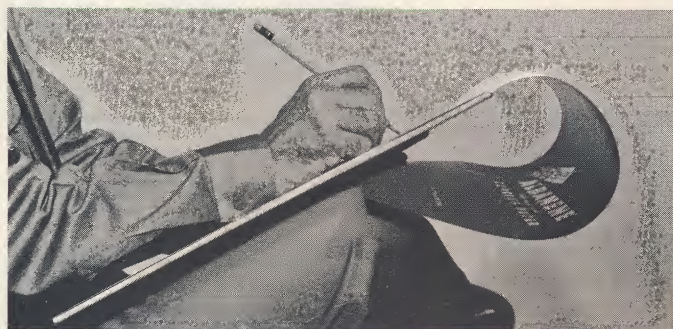
Rolls, 50 yds.
36 in. 42 in.

15 7255 Green (medium wt.) Sheets, 9 x 12 in.
11 x 15 in.
19 x 24 in. } 500/pkg.

22 x 30 in. } 250/pkg.
24 x 36 in. }

Rolls, 50 yds.
36 in. 42 in.

SKETCHING PADS



DORIC® SKETCH PADS

The DORIC line of sketch pads is ideal for student use where economy rates first, permanence second.

Transparentized Sketch Paper

	No. of sheets	Sizes
12 5555	50	8½ x 11

Graph Paper with blue grid lines

	No. of sheets	Grid Size	Sizes
12 5655	25	8x8 to in.	8½ x 11
12 5705	25	10x10 to in.	8½ x 11

Transparent Sketch Paper with blue grid lines

	No. of sheets	Grid Size	Sizes
12 5405	50	4x4 to in.	8½ x 11
12 5425	50	5x5 to in.	8½ x 11
12 5445	50	8x8 to in.	8½ x 11
12 5465	50	10x10 to in.	8½ x 11
12 5485	50	millimeters	8½ x 11

Medium Weight Drawing Paper with blue grid lines

	No. of sheets	Grid Size	Sizes
12 5005	25	4x4 to in.	8½ x 11
12 5025	25	5x5 to in.	8½ x 11
12 5045	25	8x8 to in.	8½ x 11
12 5065	25	10x10 to in.	8½ x 11
12 5085	25	millimeters	8½ x 11
12 5205	50	4x4 to in.	8½ x 11
12 5225	50	5x5 to in.	8½ x 11
12 5245	50	8x8 to in.	8½ x 11
12 5265	50	10x10 to in.	8½ x 11
12 5285	50	millimeters	8½ x 11

SWALLOW® SKETCH PADS

Natural Tracing Paper

	Thickness	No. of sheets	Sizes
12 2356	.0025"	50	8½ x 11
12 2371	.0016"	100	8½ x 11
12 2374	.0016"	100	12x18
12 2381	.0019"	100	8½ x 11
12 2384	.0019"	100	12x18
12 2387	.0019"	100	18x24
12 2391	.0022"	100	8½ x 11
12 2394	.0022"	100	12x18
12 2397	.0022"	100	18x24

ALBANENE® SKETCH PADS

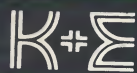
ALBANENE tracing paper is the world's best known, most widely preferred prepared tracing paper. It is made of extra high quality rags, transparentized with a permanent solid resin which will never bleed, or yellow with age.

Plain Tracing Paper

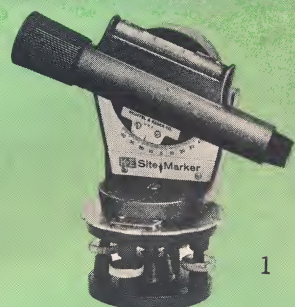
	No. of sheets	Sizes
10 5351	50	8½ x 11
10 5352	50	11x14
10 5353	50	11x17
10 5356	50	14x17
10 5357	50	18x24

GUIDE LINE™ with non-reproducible blue lines

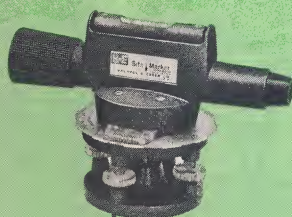
	No. of sheets	Grid Size	Sizes
10 5611	50	4x4 to in.	8½ x 11
10 5613	50	4x4 to in.	11x17
10 5621	50	5x5 to in.	8½ x 11
10 5623	50	5x5 to in.	11x17
10 5631	50	8x8 to in.	8½ x 11
10 5633	50	8x8 to in.	11x17
10 5641	50	10x10 to in.	8½ x 11
10 5643	50	10x10 to in.	11x17
10 5651	50	10x10 to ½ in.	8½ x 11
10 5653	50	10x10 to ½ in.	11x17



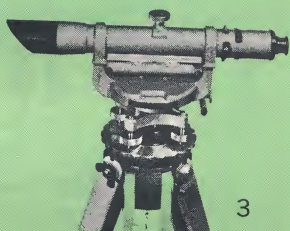
EARTH SCIENCE- TECHNOLOGY EQUIPMENT



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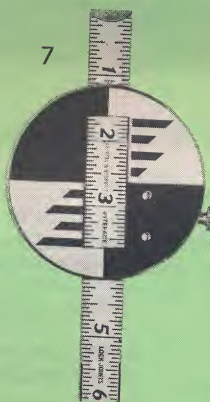
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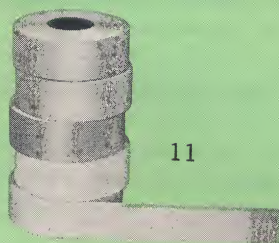
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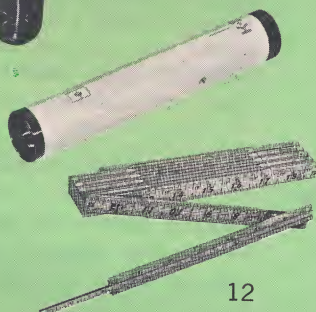
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12

SURVEYING INSTRUMENTS

① SITE-MARKER™ TRANSIT LEVEL

For getting the lay-of-the-land—at a down-to-earth price. Ideal for use down on the farm or out on the lawn; saves time, insures accuracy in establishing elevations and grades. Aluminum alloy, telescope 6" long, 8X. Furnished with case, plumb bob and instruction manual.

② SITE-MARKER LEVEL

Handy instrument for the "build-it-yourself" at a low "buy-it-yourself" price. High strength aluminum alloy; telescope 6" long, 8X. Furnished with case, plumb bob and instruction manual.

③ BUILDER'S LEVEL

For leveling operations and horizontal angles only: excavation leveling, setting grades for thresholds, sills, lintels; setting slopes for drainage or sewage lines; setting stakes for grading property. Special aluminum alloy with 11 $\frac{3}{4}$ " long telescope, 20X. Comes with carrying case, plumb bob and instruction manual.

④ BUILDER'S TRANSIT-LEVEL

For laying out buildings, plumbing vertical lines, setting grades and slopes, etc. Special aluminum alloy with 11 $\frac{3}{4}$ " long telescope, 20X. Comes with carrying case, plumb bob and instruction manual.

SURVEYING ACCESSORIES

⑤ LEVELING ROD

For use with Site-Marker instruments in setting grade marks, contouring, establishing elevations, etc. Two piece sliding section design extends from 6'6" to 12'. Furnished with target.

⑥ FAVORITE WYTEFACE® STEEL TAPE (50 FT.)

Ideal for general home landscaping, pool layout use. Also available in 25', 75' and 100' lengths.

⑦ RULE TARGET

Makes an accessory leveling rod out of any standard folding rule. Aluminum body has red, black and white baked-on enamel surface.

⑧ BRASS PLUMB BOB (12 OZ.)

For positioning of instruments, plumbing of points, etc. Also available in 6, 8, 10, 14, 16, 18 and 24 oz. weights, all with replaceable points.

⑨ PLUMB BOB SHEATH

A must for safe carrying and storage of plumb bobs. Fits any standard 10 to 14 oz. instrument. Sizes available to fit other weights.

⑩ HAND LEVEL

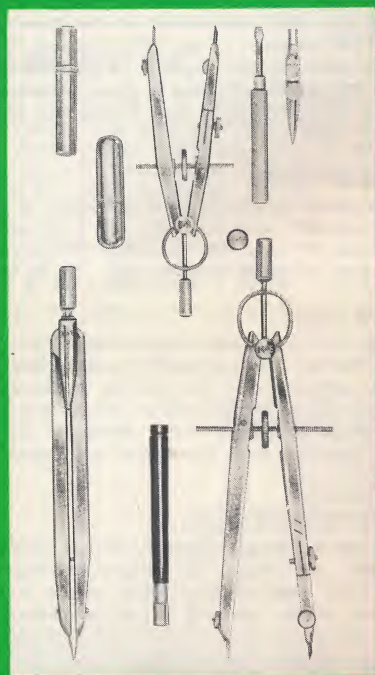
For preliminary leveling, grading, contouring, etc. Ruggedly designed 6" long instrument is precision engineered. Furnished with leather case.

⑪ PLASTIC FLAGGING

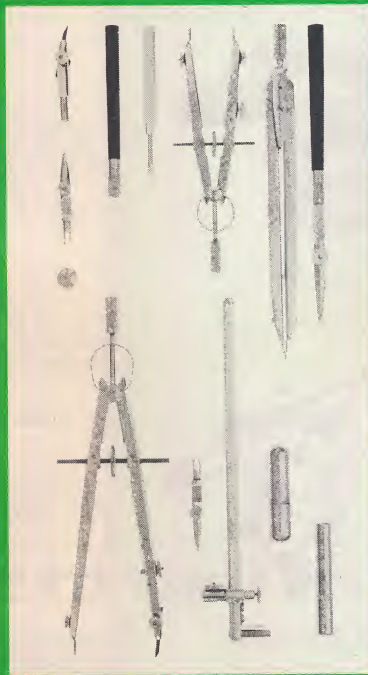
For marking property lines, fence lines, building corners, danger areas, etc. Available in red, yellow, white, orange and blue colors.

⑫ FOLDING RULE

A necessity for every builder and home owner. Rule has 72" length plus 6" graduated brass extension slide.



1



2



3

MARK™ DRAWING INSTRUMENT SETS

MARK I Sets provide superb quality drawing instruments, with a wide variety of components to choose from. These instruments are made of the finest quality nickel silver, chrome plated to resist corrosion. Steel parts are of stainless steel. Basic design features are central thumbscrews on all bow compasses for faster opening and closing, and oval ringheads for stronger, more even tension. In styling these are the most modern, attractive instruments on the market today.

① 55 0104 MARK I DRAWING INSTRUMENT SET

Primarily for pencil work, set includes: large central thumb-screw bow compass, 6½ in., with pen handle; dividers, 6 in.; small central thumb-screw bow compass, 4½ in.; center pin; leads; spare parts; screwdriver. In velvet lined case.

② 55 0052 MARK I LARGE BOW DRAWING INSTRUMENT SET

Set includes: large central thumb-screw bow compass, 6½ in., with pen handle; extension bar, 5¾ in.; plain dividers, 6 in.; small central thumb-screw bow compass, 4½ in.; cross hinge ruling pen, 5½ in.; center pin; leads; box with spare parts and needle points; screwdriver. In velvet lined case.

③ 55 0130 MARK I BEAM COMPASS DRAWING INSTRUMENT SET

For drawing large circles, set includes: beam compass, 24 in.; with three 8 in. square bars; Quick Set bow compass,

6 in., with pen handle; plain dividers, 6 in.; small central thumb-screw bow compass, 4½ in.; cross hinge ruling pen; center pin; leads; box with spare parts and needle points; screwdriver. In velvet lined case.

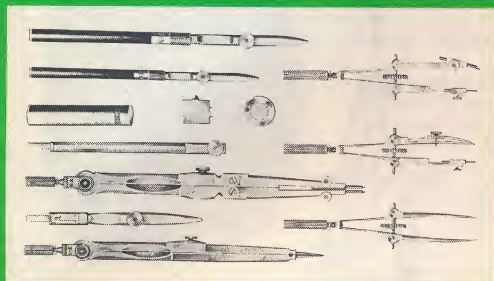
55 0234 MARK II LARGE BOW DRAWING INSTRUMENT SET

A set of good quality, featuring the same advanced styling found in MARK I instruments. Made of nickel silver, nickel plated with all steel parts of stainless steel. Components are of the same assortment as set 55 0052. In velvet lined case, with additional groove for mechanical pencil.

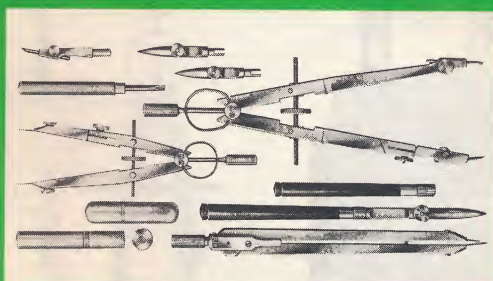
55 0260 MARK III LARGE BOW DRAWING INSTRUMENT SET

Features MARK line styling in an economy set. Made of nickel silver, with all steel parts of stainless steel. Components are of the same assortment as set 55 0052.

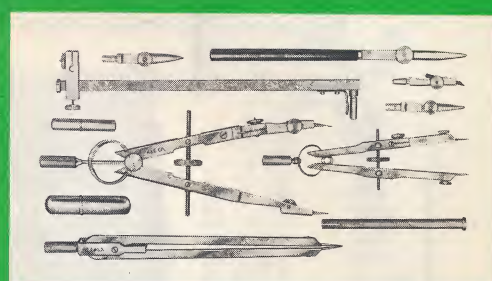
choosing a drawing instrument set is a move to be taken with some deliberation; with reasonable care, a quality set can last a lifetime. K&E receives letters almost every day from professional engineers who purchased their first set of instruments 20, 50 or more years ago and are still using them. From the selection of sets and individual instruments shown on these pages, you can make a choice which will assure you the finest quality at the price you can afford to pay.



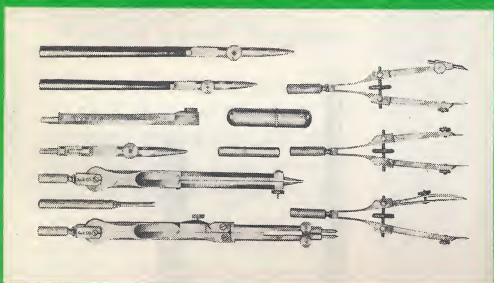
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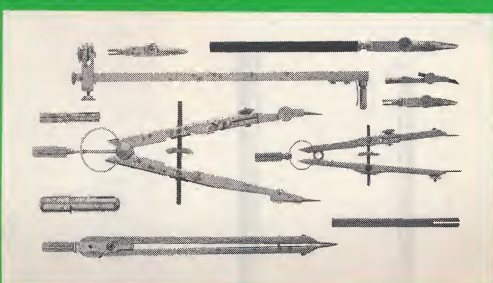
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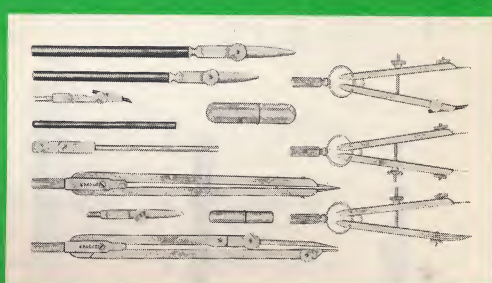
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6

OTHER POPULAR K&E DRAWING INSTRUMENT SETS

① 55 0000 PARAGON® DRAWING INSTRUMENT SET

Made of 18% nickel silver and stainless steel, this set is beyond qualification the finest you can obtain at any price . . . the traditional "standard of quality." Set includes: compass, 6½ in.; lengthening bar, 3¼ in.; hairspring dividers, 6 in.; bow dividers, bow pen and bow pencil, all 3¾ in. with central thumbscrew; two ruling pens, 4½ in. and 5½ in.; horn center; leads; key-screwdriver combination. In leather case, velvet lined.

② 57 4285 ARROW™ DRAWING INSTRUMENT SET

Set includes: large central thumbscrew bow compass, 6½ in., with pen handle; dividers, 6 in.; small central thumbscrew bow compass, 4½ in.; ruling pen with stainless steel blades, 5½ in.; leads, bow with spare parts and needle points. In velvet lined case.

③ 55 0286 JUPITER® LARGE BOW DRAWING INSTRUMENT SET

Nickel silver, chrome plated, set includes: large central thumbscrew bow compass, 6½ in., with pen handle; extension bar, 5¾ in.; dividers, 6 in.; small central thumbscrew bow compass, 4¼ in.; ruling pen, 5½ in.; leads, repair parts. In velvet lined case.

55 0312 JUPITER DRAWING INSTRUMENT SET

For pencil work only, set includes: dividers, 6 in.; large central thumbscrew bow pencil, 6½ in.; small central thumbscrew bow pencil, 4¼ in.; leads; repair parts. In velvet lined case with groove for insertion of mechanical pencil.

④ 55 0390 FAVORITE® DRAWING INSTRUMENT SET

Set includes: compass, 6¼ in., with lengthening bar and pen handle; hairspring dividers, 6 in.; steelspring bow dividers, bow pen and bow pencil, all 4¼ in., with central thumbscrew; two ruling pens, 4½ in. and 5½ in.; leads; repair parts and needle points; screwdriver. In velvet lined case.

⑤ 55 0442 APOLLO® DRAWING INSTRUMENT SET

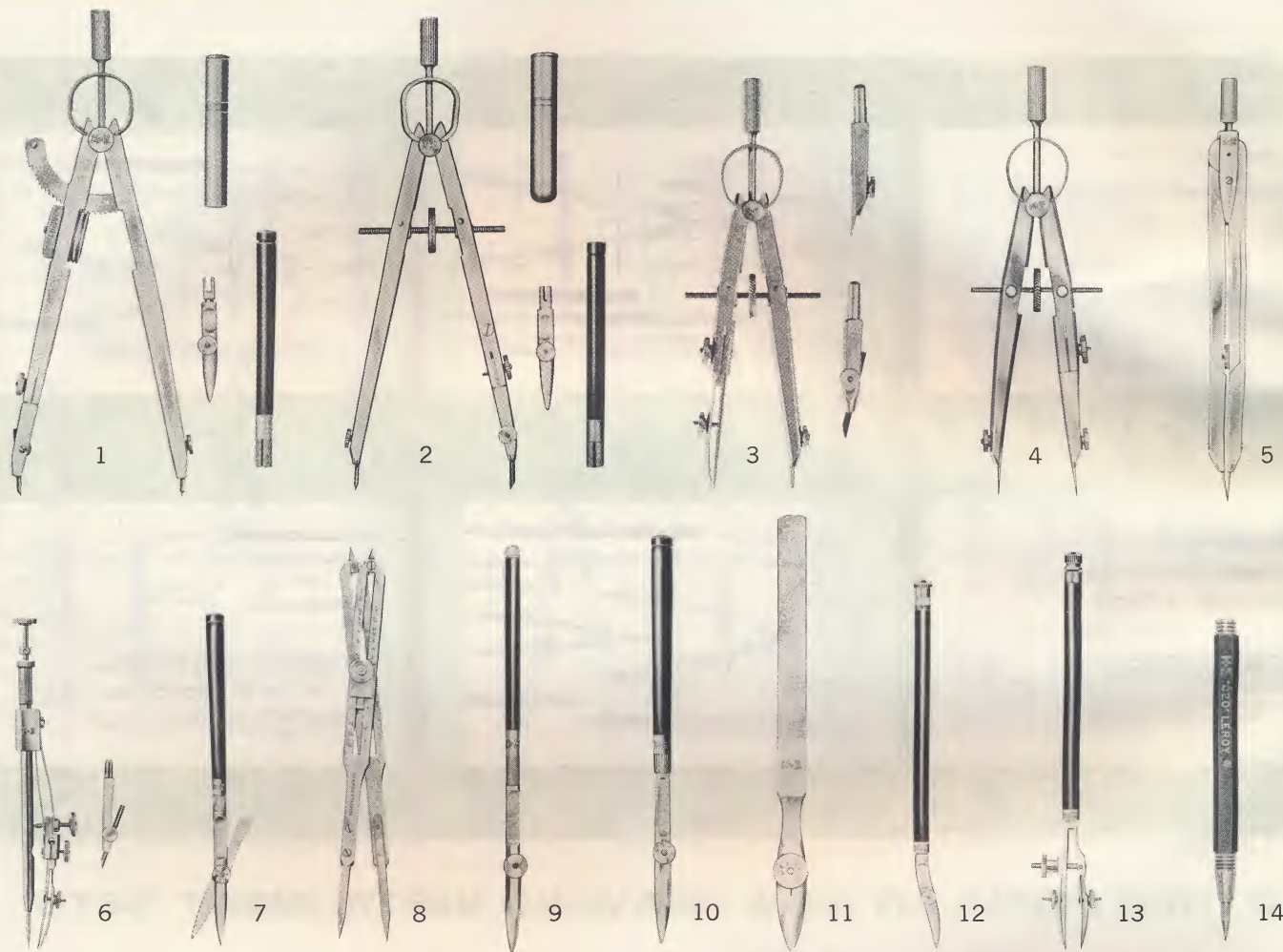
Set includes: large central thumbscrew bow compass, 6½ in., with pen handle and extension bar, 5¾ in.; dividers, 6 in.; small central thumbscrew bow compass, 4¼ in.; ruling pen, 5½ in.; leads; repair parts. In lined case.

55 0468 APOLLO DRAWING INSTRUMENT SET

Set includes: compass, 6¼ in., with lengthening bar and combination pen handle and screwdriver; hairspring dividers, 6 in.; bow dividers, bow pen and bow pencil, all 4¼ in., with central thumbscrew; two ruling pens, 4½ in. and 5½ in.; leads; repair parts and needle points. In lined case.

⑥ 55 0494 HERMES® THREE BOW DRAWING INSTRUMENT SET

When cost is the primary consideration, this set offers satisfactory quality and service. Set includes: Compass, 6¼ in., with pen handle; dividers, 6 in.; side thumbscrew bow pencil, pen and dividers, all 3½ in.; two ruling pens, 5½ in., and 4½ in.; leads, repair parts and needle points. In lined case.



COMPASSES

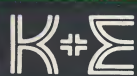
- ① **57 1716 MARK I "Quick Set" Bow Compass**
6½ in. flat type; interchangeable pen and pencil inserts; knee joint on insert leg; spring release and ratchet for quick approximate settings, with micrometer adjustment; pen handle; box with leads and needle point.
- ② **55 1722 MARK I Large Bow Compass**
6½ in. flat type; interchangeable pen and pencil inserts; knee joint on insert leg; central thumbscrew; pen handle; box with leads and needle point.
- 55 1728 MARK I Extension Bar**
5¾ in.; to increase maximum diameter of circles drawn with compasses 55 1716 and 55 1722.
- ③ **55 1758 MARK I Small Bow Compass**
4½ in. flat type; interchangeable pen, pencil and divider inserts; central thumbscrew.
- 55 1806 MARK I Beam Compass**
24 in., three 8 in. bars; micrometer adjustment; interchangeable pen, pencil and needle inserts; box with leads and needle point.
- 55 1746 MARK I Large Bow Pencil**
6½ in. flat type; central thumbscrew; similar to 55 1722 except that pencil point is not detachable; box with leads and needle point.

BOW PENCILS, PENS & DIVIDERS

- 55 1764 MARK I Small Bow Pencil**
4½ in. flat type; central thumbscrew; rigid legs.
- 55 1770 MARK I Small Bow Pen**
4½ in. flat type; central thumbscrew; rigid legs.
- ④ **55 1800 MARK I Small Bow Dividers**
4½ in. flat type; central thumbscrew; rigid legs; replaceable points.
- ⑤ **55 1788 MARK I Hairspring Dividers**
6 in. flat type; straightening device; replaceable points.
- 55 1794 MARK I Plain Dividers**
Same as 55 1788 but without hairspring.
- ⑥ **55 1776 MARK I Drop Bow Pencil**
4¾ in. flat type; interchangeable pen and pencil inserts; adjustable lift height.
- ⑦ **55 1824 MARK I Cross-hinge Ruling Pen**
5½ in.; easy opening type; with graduated screw.
- 55 1830 MARK I Cross-hinge Ruling Pen**
4½ in.; easy opening type; with graduated screw.
- ⑧ **55 1866 MARK I Proportional Dividers**
7½ in., divided for lines from 3:4 to 1:10 and circles from 4 to 20; replaceable steel points; with rack movement which facilitates setting.
- 55 1860 MARK I Proportional Dividers**
Same as 55 1866, but in leatherette covered case, with velvet lining.

RULING PENS

- ⑨ **55 1066 PARAGON RED TIP® Ruling Pen**
5½ in.; stainless steel blades tipped with tungsten carbide for maximum wear; identified by red tip on handle.
- 55 1084 PARAGON WYTETIP® Ruling Pen**
5½ in.; stainless steel blades tipped with tungsten high speed steel; second only to PARAGON RED TIP for long wear; identified by white tip on handle.
- ⑩ **55 1836 MARK I Ruling Pen**
5½ in.; high grade tool steel blades.
- ⑪ **55 1848 MARK I Detail Pen**
6 in.; flat aluminum handle; numbered thumbscrew to facilitate resetting.
- ⑫ **55 1842 MARK I Curve Pen**
5 in.; stainless steel blades; pen handle with thin rotating rod; blades turn easily and follow smallest curve with precision; clamp locks blades in place for use as regular drawing pen.
- ⑬ **55 1854 MARK I Railroad Pen**
5¼ in.; stainless steel spring blades; like 55 1842 except that it has two pairs of blades; side thumbscrew.
- ⑭ **61 0200 LEROY® "020" Pencil Set**
For uniform pencil lines without the need to stop and repoint, since lead never varies in width. In plastic case with lead dispenser containing 24 leads.



ACCESSORIES



VARI-POINT®

Variable Taper Lead Pointer

58 0500 Gives you just the type of point you want on the lead in your mechanical holder—short, medium or long depending on the length of lead released. For desk top use. Drop out, no-smudge replaceable abrasive cup.



Pocket Lead Pointer

58 0505 Here's a lead pointer that does double duty. In its base, it's handy near your desk; out of its base, you can slip the pointer in your pocket and take it with you — no graphite will escape. Fine quality steel blades give you a sharp, perfect point with just a twist or two. For clean, sharp, uniform lines and "A" drawings anywhere, anytime there's just one answer—get a LANCER.



CLEAN- POINT JR.™

Lead Cleaner

58 0525 After pointing, pencil lead contains a fine coating of powdery dust. Rather than wiping or blowing the dust off, just spear the point into this poly-foam cleaner. Result: pencil point is completely clean. With pressure-sensitive adhesive back, it holds firmly to any surface. One cleaner lasts for hundreds of point cleanings.

Also available in a doughnut shaped ring to place around the VARI-POINT pointer . . . 58 0524.



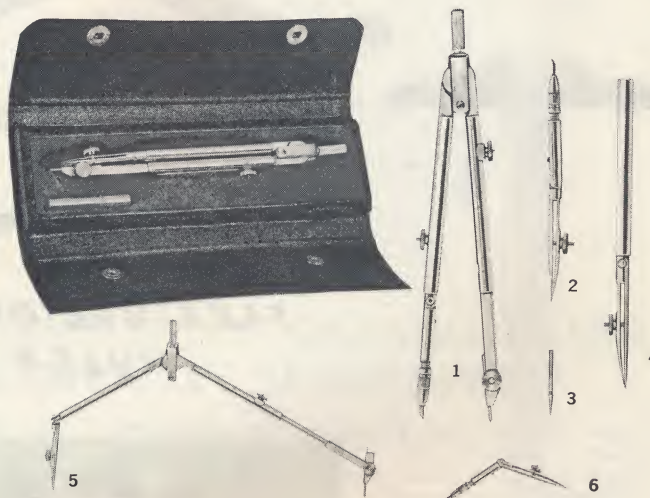
LEAD HOLDERS

You can choose from a wide variety of draftsmen's lead holders, made for K&E by such outstanding manufacturers as Mars, Ruwe, Eagle, Castell and Koh-I-Noor. Ask to see the complete line at your nearby K&E dealer's or your college store.

DORIC® 6-IN-ONE COMBINATION SET

Six Drawing Instruments in One

55 0520 The perfect instrument for anybody with a limited amount of drawing to do. This all-purpose instrument is made of high quality nickel-plated brass for long life. Comes in a handy 7 x 2 1/4" pocket carrying case. With extra divider needle and leads.



1. 6" pencil compass
2. 6" pen compass
3. 6" dividers
4. 4 1/2" ruling pen

5. pen compass up to 20" diameter
6. pencil compass up to 22" diameter

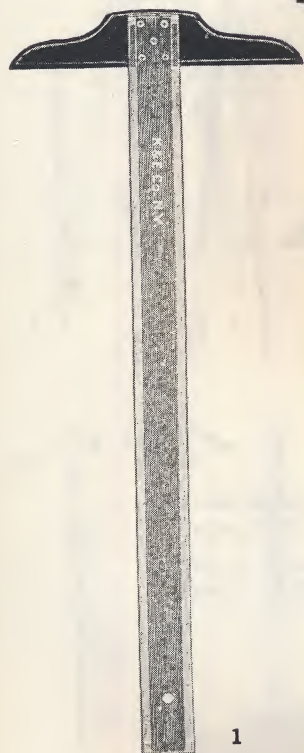


Motoraser™

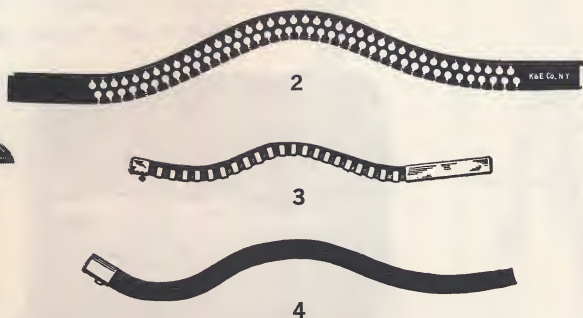
**World's smallest general-purpose
electric erasing machine**

58 0570 Compact in size, big in performance, MOTORASER is probably the most efficient erasing machine ever developed.

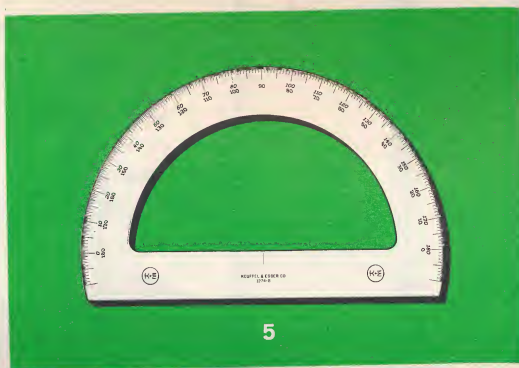
A mere 7 1/2 ounces, it fits neatly in the palm of your hand. It's perfectly balanced, designed so you can erase entire drawings or eliminate just a decimal point.



T-SQUARES



FLEXIBLE CURVE RULES



PROTRACTORS

① T-SQUARES

56 3900 T-SQUARE. Finest quality, mahogany finish maple blade; transparent plastic edges; ebony finish head. 18, 24, 30, 36, 42, 48, 54 and 60 in.

56 3930 T-SQUARE. Maple blade; transparent plastic edges; hardwood head with black finish. 18, 24, 30, 36 in.

② FLEXIBLE CURVE RULE

57 2817 Specify size:
12 in. 18 in. 24 in. 30 in.

③ **57 2833 ADJUSTABLE CURVE RULE**, rubber and metal, 14½ in.

④ **ADJUSTABLE CURVE RULE**, rubber covered,
57 2837 Specify size:
7 in. 15 in. 31 in.

⑤ SEMICIRCULAR PROTRACTORS

57 0524 Luxylite, beveled edge, 6 in., divided to ½° in both directions. Easy to use because it's free from parallax and distortion, and accurate to use because it's precision-made.

57 0542 Brass, 3¾ in., divided to degrees in both directions. Scale on base 3 in. long, divided to 16ths.

IRREGULAR CURVES



LUXYLITE IRREGULAR CURVES

57 1007 (Order patterns by numbers)

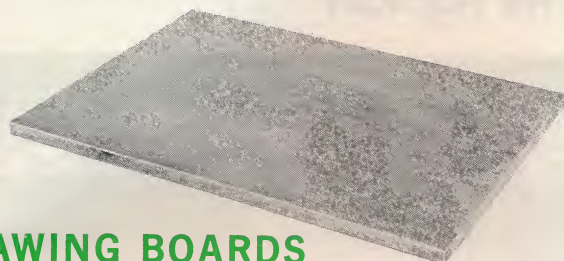
ACRYLIC IRREGULAR CURVES

57 1600 (Order patterns by numbers)



DRAWING ACCESSORIES

Here are some additional products to make your drafting and design work go more quickly . . . and easily.



DRAWING BOARDS

64 1215 These balsa core drawing boards with basswood lamination save nearly 50% the weight of old-style boards, yet are completely rigid. They resist warping and cracking under all normal conditions. Specify size:

12 x 17 in. 16 x 21 in. 18 x 24 in. 20 x 26 in. 23 x 31 in.

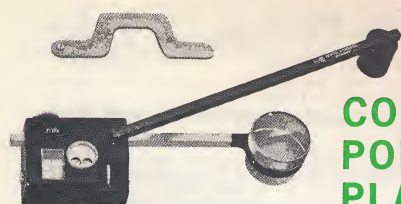


DORIC® PARALLEL STRAIGHTEDGE

56 4150 A versatile tool for ruling perfectly parallel straight lines. Accurate and low in cost, this instrument can be mounted to any drawing board in minutes. Hard maple body with transparent acrylic edges. Specify sizes:

36, 42, 48, 54, 60 and 72 in.

(84 and 96 in. also available to order)



COMPENSATING POLAR PLANIMETERS

These planimeters, with fixed arms, accurately measure plane areas of any form. Simply move the tracer around the periphery of the figure and the area is read directly from the measuring wheel and dial.

62 0000 Direct Reading English . . . Reading areas directly in square inches to 0.01 sq. in. can be used on maps and drawings to various scales. Particularly useful on maps with scale of 1 in. = 660 ft., giving direct readings to 0.1 acre. With magnifier tracer lens; manual zero setting wheel; test rule; in velveteen-lined case with foam rubber padded top. Pole Weight Anchor available as accessory.

Length of tracer arm, 4¼ in.

Length of pole arm, 7½ in.

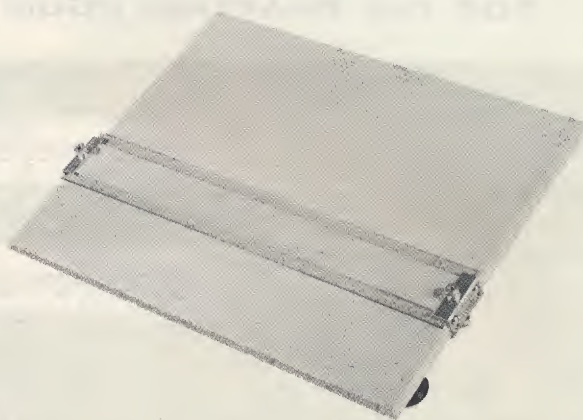
Maximum Area:	Square (in.)	Rectangle (in.)	Circle (in. diam.)
"Pole-outside-figure"	6¾ x 6¾	4 x 15	7
"Pole-inside-figure"	16 x 16	11 x 20	23

62 0005 Direct Reading Metric . . . Similar to 62 0000 but reading areas directly in square centimeters to 0.1 sq. cm.

Length of tracer arm, 6¾ in. (16.2 cm)

Length of pole arm, 7½ in. (19.1 cm)

Maximum Area:	Square (cm)	Rectangle (cm)	Circle (cm diam.)
"Pole-outside-figure"	27 x 27	20 x 50	30
"Pole-inside-figure"	49 x 49	35 x 60	70



COMBINATION DRAWING BOARD & PARALLEL STRAIGHTEDGE

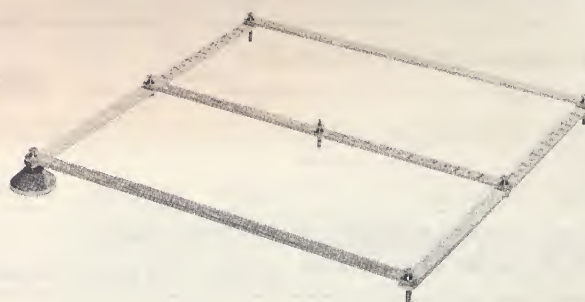
64 1300 A lightweight, quality basswood and balsa core drawing board 12 x 17 in., with parallel ruling attachment. Ruling blade is of maple wood with acrylic edge. Board has tilting device and suction cup feet for stability. Convenient carrying handle.

64 1301 16 x 21 in.

64 1302 18 x 24 in.

64 1303 20 x 26 in.

64 1304 23 x 31 in.



HARDWOOD PANTOGRAPH

57 4296 This instrument reduces and enlarges in ratios from 2:1 to 16:1 or vice versa. Polished hardwood bars are 22½ in. long. Metal parts are nickel-plated.



LEROY® LEAD POINTER

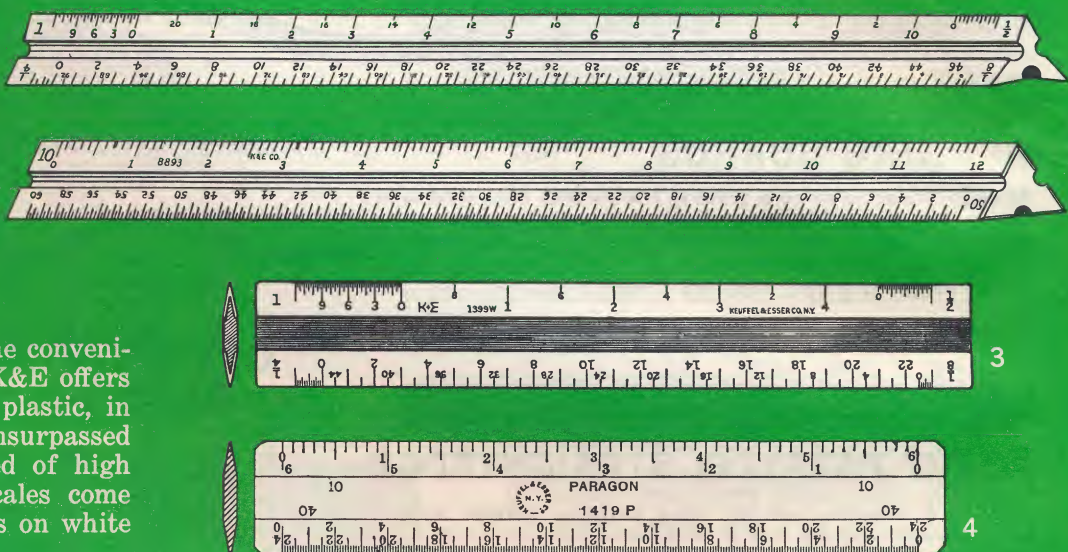
58 0548 A tiny little helper . . . puts a neat point on your mechanical pencil lead. Sturdy and economical. Blades are good for hundreds of pointings with standard graphite leads. Not recommended for use with plastic leads.

FOR THE ARCHITECT AND ENGINEER FOR THE DRAFTING ROOM / FOR THE POCKET

For your day-in, day-out drafting and design work, you will need a couple of useful triangular scales . . . a 12" Architects' scale and a 12" Engineers' scale—or a single combination of both.

For extra value in scales, choose from the K&E models listed to the right.

Later on, you will appreciate the convenience of a pocket scale or two. K&E offers two grades of 6" flat scales—plastic, in green and white, and the unsurpassed PARAGON® scales. Constructed of high grade boxwood, PARAGON scales come with engine divided graduations on white plastic facings.



TRIANGULAR SCALES

	PLASTIC Green & White	Boxwood Color	HARD- WOOD
① ARCHITECTS' TRIANGULAR SCALE, 12 in.; open divided $\frac{3}{32}$, $\frac{3}{16}$, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, 1, 1½, 3 in. to the foot, $\frac{1}{16}$ in.	56 3778	56 3832	56 3846
② ENGINEERS' TRIANGULAR SCALE, 12 in.; fully divided 10, 20, 30, 40, 50, 60 parts to the inch.	56 3780	56 3834	56 3850

TRIANGULAR COMBINATION ARCHITECTS', ENGINEERS' AND MECHANICAL SCALE, 12 in. ARCHITECTS' $\frac{1}{8}$, $\frac{1}{4}$ in. to the foot—open divided. $\frac{1}{2}$, 1 in. to the foot—open divided. ENGINEERS' 50 parts to the inch—fully divided. MECHANICAL 16 parts to the inch—fully divided. $\frac{1}{4}$ & $\frac{1}{2}$ size—open divided. $\frac{3}{8}$ size & $\frac{3}{4}$ size—open divided.

56 3836 56 3852

METRIC TRIANGULAR SCALE, 30 cm.; fully divided 1:100, 1:80, 1:50, 1:40, 1:33½, 1:20.

56 3782

FLAT SCALES

	PARAGON	PLASTIC GREEN & WHITE
ARCHITECTS' FLAT SCALE, 12 in., two bevels; open divided $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1 in. to the foot.	56 3202	56 3568
ARCHITECTS' FLAT SCALE, 12 in., four bevels; open divided $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, 1, 1½, 3 in. to the foot.	56 3218	56 3572
ENGINEERS' FLAT CHAIN SCALE, 12 in., two bevels; divided, 10 and 50 parts to the inch. .	56 3228	56 3576
MECHANICAL DRAFTSMEN'S FLAT SCALE, 12 in., opposite bevels; fully divided, double numbered, full size, inches reading to 50ths; full size inches reading to 32nd.	56 3252	56 3582

FLAT SCALES

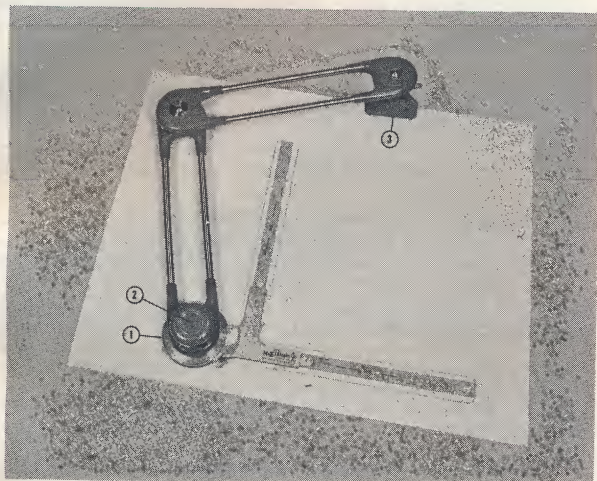
	PARAGON	PLASTIC GREEN & WHITE
MECHANICAL DRAFTSMEN'S FLAT SCALE, 12 in., opposite bevels; fully divided; full size inches reading to 16ths; full size, inches reading to 32nds.	56 3254	56 3584
MECHANICAL DRAFTSMEN'S FLAT SCALE, 12 in., opposite bevels; fully divided; full size, inches reading to 16ths; half size, inches reading to 16ths ($\frac{1}{2}$ actual).	56 3264	56 3592
METRIC FLAT SCALE, 30 cm., two bevels; divided centimeters to millimeters and inches to 16ths.	56 3280	56 3596

POCKET SCALES

	PARAGON	PLASTIC GREEN & WHITE
③ ARCHITECTS' FLAT SCALE, 6 in., four bevels; open divided $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, 1, 1½, 3 in. to the foot; in leather sheath.	56 3216	56 3570
④ ENGINEERS' FLAT SCALE, 6 in., four bevels; fully divided 10, 30, 40, 50 parts to the inch; in leather sheath.	56 3240	56 3578
ENGINEERS' FLAT SCALE, 6 in., four bevels; fully divided 10, 20, 40, 50 parts to the inch; in leather sheath.	56 3242	56 3580
ENGINEERS' FLAT CHAIN SCALE, 6 in., two bevels; divided 10 and 50 parts to the inch. .	57 3220	56 3574
METRIC FLAT SCALE, 15 cm., two bevels; divided centimeters to millimeters and inches to 16ths.		56 3594
UNDERWRITERS' FLAT SCALE, 6 in., two bevels; engine divided; double numbered; full size; inches reading to 10ths and inches reading to 50ths; inch line extends full widths of scale.		56 3494
UNDERWRITERS' FLAT SCALE, 6 in., two bevels; engine divided; double numbered; full size; both scales in inches reading to 10ths. .		56 3496

Paragon[®] Jr.

Desk Size Drafting, Design & Layout Machine



60 1125

60 1125 A compact, ideal drafting machine designed for the student that offers all features found in professional, standard-size drafting machines. Only 23 inches overall, PARAGON JR. is just right for use in student's rooms for easier and faster working. Can be mounted in seconds on almost any desk or table for immediate use.

Also available in 18 in. desk size 60 1130.

1. PROTRACTOR CONTROL RING—Controls automatic 15° settings and all intermediate settings other than 15° increments. Intermediate settings are locked in place by means of a lock lever conveniently located on the control head.

2. AUTOMATIC 15° RESET BUTTON—Resets the control head for automatic 15° settings.

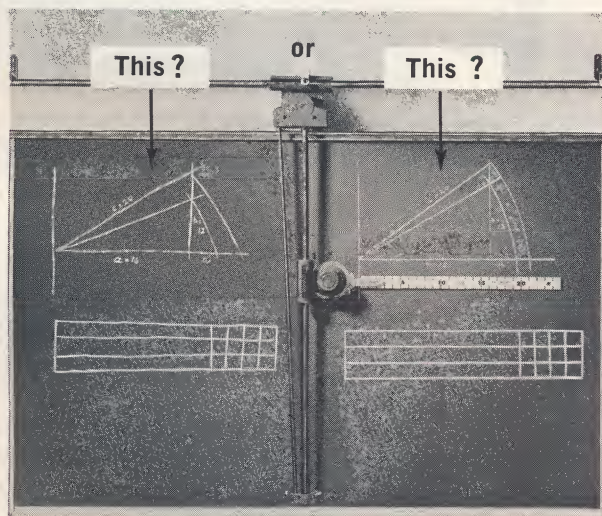
3. COMBINATION MOUNTING BRACKET—For temporary or permanent mounting; cast aluminum C-clamp type but with screw holes for permanent mounting.

OTHER IMPORTANT FEATURES

- Aluminum protractor ring graduated through 360° in quadrants 0°-90°-0°. Matching vernier with direct reading to 5 minutes of arc.
- Full 360° base line adjusted while retaining 0 indexing.
- Any scales with standard chuck plates can be used.
- Operates at any board angle up to 20°.
- Handles any board size up to approx. 24 x 36 in.

PARAGON Auto-Flow[®]

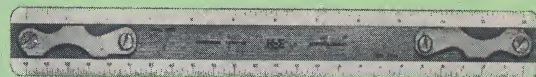
Chalkboard Drafting, Design & Layout Machine



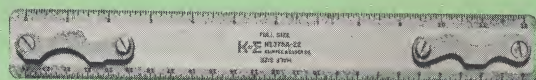
ATTENTION—TEACHERS & PROFESSORS!

An important teacher's aid for math, science and technical courses. Complex diagrams can be made quickly, with details clearly shown. Presentations take on a new look in exactness and chalkboard technique is greatly improved. Available in arm lengths to fit boards 30, 36, 42, 48 inches in depth, rails of any width.

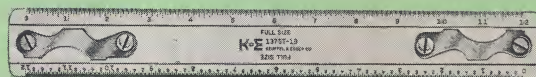
DRAFTING MACHINE SCALES



PARAGON SCALES



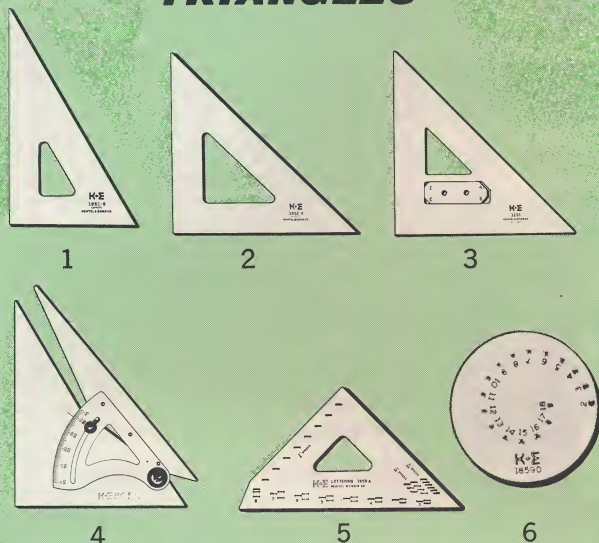
NATURAL ANODIZED ALUMINUM SCALES



LUXYLITE TRANSPARENT PLASTIC SCALES

A complete line of drafting machine scales is available. They range from the PARAGON line of high quality boxwood to natural anodized aluminum scales on to Luxylite transparent plastic scales. All scales are available in 9, 12 and 18 inch lengths.

TRIANGLES



MEASURING TAPES



TRIANGLES 30° - 60°

With Finger Lifts		Without Finger Lifts
LUXYLITE	*ACRYLIC	ACRYLIC
57 0220 (4 in.)	57 0252 (4 in.)	57 0272 (4 in.)
57 0220 (6 in.)	57 0252 (6 in.)	57 0272 (6 in.)
57 0220 (8 in.)	57 0252 (8 in.)	57 0272 (8 in.)
57 0220 (10 in.)	57 0252 (10 in.)	57 0272 (10 in.)
57 0220 (12 in.)	57 0252 (12 in.)	57 0272 (12 in.)
57 0220 (14 in.)		
57 0220 (16 in.)		
57 0220 (18 in.)		

TRIANGLES 45°

With Finger Lifts		Without Finger Lifts
57 0292 (4 in.)	57 0324 (4 in.)	57 0344 (4 in.)
57 0292 (6 in.)	57 0324 (6 in.)	57 0344 (6 in.)
57 0292 (8 in.)	57 0324 (8 in.)	57 0344 (8 in.)
57 0292 (10 in.)	57 0324 (10 in.)	57 0344 (10 in.)
57 0292 (12 in.)	57 0324 (12 in.)	
57 0292 (14 in.)		
57 0292 (16 in.)		
57 0292 (18 in.)		

*57 0252 and 57 0324 inside edges entirely beveled.

- ① **57 0200 SECTION LINER TRIANGLE**
With this 8 inch transparent triangle, section lines can be drawn diagonally or vertically at four different spacing intervals, over any desired area.
- ④ **57 0212 ADJUSTABLE TRIANGLE**
This instrument combines the functions of triangle and protractor. A right-angle triangle, the hypotenuse can be set at any desired angle with one of the bases. The protractor element is equivalent in size to a 7 inch protractor and is graduated to half degrees.
- ⑤ **57 0382 LETTERING TRIANGLE**
45° with 67½° cutoff, 6 in.
- ⑥ **57 0394 PARALLEL LINE TRACER**
For drawing parallel lines with exact spacing along edge of T-square or curve. Pencil point is inserted through hole. Spacing is in 32nds of an inch.

MEASURING TAPES

- ⑦ **WYTEFACE® 90**
Rewinds itself with simple squeeze or press control. Running foot numbers in red every inch . . . stud marks every 16 inches. In 6, 8, 10, and 12 foot lengths.
- ⑧ **LST LEVEL SQUARE TAPE**
Accurate, unbreakable level plus handy built-in square. Full 10-foot replaceable WYTEFACE® blade with red foot markings, sliding end hook. Rugged die-cast case with durable chrome finish.
- ⑨ **CAPE MAY WYTEFACE®**
Streamlined design looks good, fits the hand! Clear, bold blade markings: one edge shows feet, inches, 16ths (first 6 inches to 32nds), with foot numbers in red at every inch. Other edge shows continuous inches, to 16ths. Stud marks every 16 inches. In 6, 8, 10, 12 foot lengths (½" blade); 10 and 12 foot lengths (¾" blade).
- ⑩ **FAVORITE® WYTEFACE**
Red foot numbers, repeated at every inch. Marked in feet, inches, ½ inches, black on white. Sturdy welded steel case, vinyl-covered, with handsome nickel-plated mountings. In 25, 50, 75, 100 foot lengths, with plain end ring or K&E End Fastener. Replaceable lines are ⅜" wide.
- ⑪ **CROWN® WYTEFACE**
Case covered with black Plastide™—tougher than leather! Chrome-plated mountings. Wide-sweep extension handle for easy re-winding. Marked in feet, inches, ½ inches . . . foot numbers in red, every inch. In 25, 50, 75 and 100 foot lengths—with plain end ring or K&E End Fastener.
- ⑫ **BOSS® WYTEFACE**
Famous finger-grip edge on sturdy, 2-color aluminum case with plated mountings. Marked in feet, inches, ½ inches, with red foot numbers at every inch. Wide-sweep extension handle. 50 and 100 feet, plain end ring or K&E End Fastener.

DORIC® LETTERING SETS

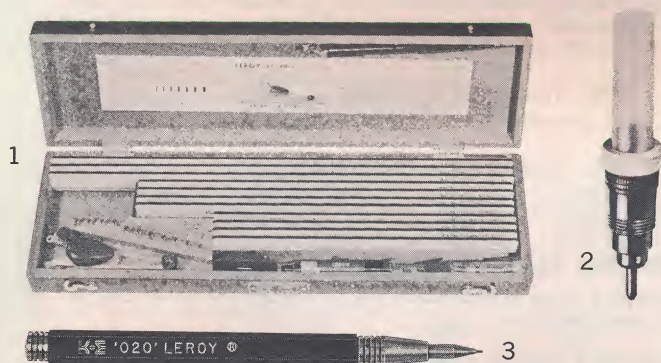


DORIC is so easy to use you can letter like a professional. Just select template with the size and style of lettering you want, set tail pin of scribe in straight guide groove of the template and simply trace the engraved letters on the template with the tracer pin of the scribe. The pen reproduces the letters and symbols in exact duplicate on your drawing and in full view above the template. By varying the pitch of the scribe you control the slant of the letters.

61 3135 DORIC LETTERING SET, containing: 61 3190, Template with three sizes of capital and lower case letters and numerals; 61 3160, Adjustable Scribe; 61 3165 & 61 3170, Lettering Pens in two widths; 61 3200, Transparent Straightedge; 61 3205, Lead Holder; 58 0005, Leroy Ink Cartridge. Furnished in handsome wooden case.

61 3130 DORIC LETTERING SET, similar to No. 61 3135 except Template has only capital letters, Scribe produces only vertical letters. Furnished in durable synthetic leather case.

LEROY® LETTERING EQUIPMENT



① Widely used in industrial drafting rooms, LEROY lettering is virtually a standard for engineering drawings for these reasons—time-saving, uniformity and versatility. To get the advantages of LEROY you need only three basic items: template, scribe and pen. These professional lettering sets come with standard templates in many sizes of graphical symbols and alphabets. Templates for foreign languages such as Russian and Greek are also available. Components for the LEROY Lettering Sets are available separately from stock or to order at most college stores.

② **LEROY RESERVOIR PENS.** These pens are furnished in seven sizes and are designed to give you up to 1200 feet of lettering without refilling.

61 0060 Furnished in complete set of seven point sizes, complete with holder base. Each drawing point section furnished with an airtight, refillable ink cartridge.

61 0050 Individual LEROY Pens, sizes 00, 0, 1, 2, 3, 4, 5.

③ **61 0200—LEROY .020 Lettering Pencil.** For drawing uniform lines throughout entire drawings without stopping to repoint. Lead never varies in width. Comes in plastic case with lead dispenser containing 24 leads.

SOME TYPICAL LEROY TEMPLATES

{ } [] ∫ √ Σ ± ∓ ≡ ≠ ≈ α ≤ ≥ ~ ÷ + × ∞

MATHEMATICAL SYMBOLS

ABCD Z&012 789

OUTLINE GOTHIC

ABC Z&,:! ? () ' 12 9 \$

STYMIE MEDIUM

A B C D E F Z & \$ 12 7 8 9 0

OLD ENGLISH

A a B b C c D d E e F f G g H h I i K k L l M m N n

RUSSIAN

A B C D Z & " ' , ; : ! ? a b c 5 6 7 8 9 0 \$

SCRIPT

① 58 0660 ABC® DRY-CLEAN PAD

A sure-fire way to keep engineering drawings clean. Gum-eraser particles, sifted through a mesh cover eliminate need for tedious clean-up erasing.

58 0664 ABC DRY-CLEAN JR.™ PAD

Same as 58 0660 but approx. one-half size.

② 58 0684 DRAFT-CLEAN® POWDER

The same gum eraser particles, these a little more finely ground and packaged in a handy, squeeze-bottle. One or two sprays will cover an entire drawing.

③ ERASERS

Nothing is more galling than a smudgy eraser. To lift the graphite from your drawing, we recommend the PINK PEARL 58 0608 or the new vinyl eraser TAD 58 0600.

④ 58 0510 TRU-POINT LEAD POINTER

In every drafting room you'll see a Tru-Point. Puts a perfect point on a mechanical lead pencil with just one or two twirls of the rotating head.

⑤ 58 0710 DUSTING BRUSH - 10-INCH

Why waste valuable breath trying to blow away all the stuff that seems to gravitate to the surface of your drawing board? A good brush does it far better.

⑥ 58 1596 DRAFTING TAPE

The four corners of an engineering drawing shouldn't be without their little swatches of drafting tape. And you'll find plenty of other uses for this too.

⑦ 58 0800 PAPER CUTTER

Let's face the facts: cutting paper or illustration board is a job for a paper cutter, not for scissors. Especially good for inset cut-outs.

⑧ 58 0005 LEROY® INK CARTRIDGE

There was a time when drawing pens were painfully filled by ladling ink from a bottle. But no more—with this cartridge you simply aim and squeeze.

⑨ 58 0824 TACK LIFTER

Once a good thumb-tack is pushed into a good drawing board a union is created, aimed (it seems) at the destruction of your finger nails. Use a tack-lifter! It also serves as a paper-cutter.

⑩ 56 3864 SCALE CLIP

This bright little item makes it easier to pick up your triangular scales, gives you the scale graduation you are using every time.

⑪ 58 1360 DULSEAL™

Here is a transparent film with a delayed-action adhesive. You can place it down, lift it, move it around. An excellent protector . . . good in dozens of other ways too.

⑫ 89 1100 HAND TALLY REGISTER

For count-downs or count-ups, you'll appreciate the convenience and accuracy of a tally register. Ideal for any course where figures are important—it lets you think what you're doing while it counts what you're doing.

⑬ 57 1000 LOGARITHMIC SPIRAL CURVE

This curve is constructed on mathematical principles and contains every curve within the limits of its size. It is a tool of large scope and useful for various calculations.

⑭ "RITE IN THE RAIN" WEATHERPROOF FIELD & LEVEL BOOKS

The answer for making entries in a damp environment. Both stock and printed lines are moisture resistant to prevent smearing of writing.

82 0004 Field Book, 4 5/8 x 7 1/4 in.

82 0036 Level Book, 4 1/8 x 6 1/2 in.

⑮ 80 0090 RECON™ COMPASS

A versatile compass designed for accuracy and convenience in rough surveying use, timber cruising, boundary locations, etc. Upper ring designed for determining the bearing of a line; graduated in quadrants and from 0° to 360° in a counter-clockwise direction. Lower ring designed for determining direction in a conventional manner; provided with magnetic declination adjustment. Diameter 3 1/2 in.; thickness 5/8 in.; needle 2 1/2 in. long; weight about 6 ounces.

⑯ 83 0354 POCKET MAGNIFYING GLASS

As a student engineer you're going to be exposed to a host of minutiae. For closer inspection of this matter we suggest a magnifying glass.

⑰ 62 0320 MAP MEASURE

For measuring map distances—quickly and accurately. Simply run the wheel of the instrument over the map following the line of distance to be measured. The distance will appear in feet, inches, eighths and tenths of inches on the dial; while the measuring wheel reads to 1/32 or .05 inches.

⑱ 57 0548 PERCENTAGE PROTRACTOR

Many times, you will be required to work with charts and graphs. The K&E Percentage Protractor will be of particular value here since it can be employed in the construction and measurement of "pie" charts and similar graphs.

⑲ 57 1001 TEACHERS ELLIPSES

Set of 10; major axis 1 1/2 to 6 in., increasing by 1/2 in.

⑳ 57 1002 TEACHERS HYPERBOLAS

Set of 8; base approximately 3 3/8 in., height 2 to 5 1/2 in., increasing by 1/2 in.

㉑ 57 1003 TEACHERS PARABOLAS

Set of 8; base approximately 3 3/8 in., height 1 1/4 in. to 5 5/8 in., increasing by 5/8 in.

㉒ 80 0243 ANGLE MIRROR

For angles of 90°; field of view 10.0°; equipped with small plumb bob, threaded for enclosing in the instrument. Furnished in leather case.

㉓ 80 0248 DOUBLE RIGHT ANGLE PRISM

For sighting 90° angles in either direction; field of view 9.5°; extremely accurate, cannot disalign. Furnished in leather case.

㉔ 80 0259 RECTANGULAR PRISM

For sighting 90°; field of view 7.5°. Furnished in leatherette case.

㉕ FIELD SURVEY NOTEBOOKS

High percentage rag stock paper, with waterproofed surface; printed in red and blue from engraved plates, for accuracy of spacing and clear lines, with waterproof inks; right hand page, 8 vertical lines to the inch.

82 0018 4 5/8 x 7 1/4 in., 32 leaves, spiral bound. Will lie absolutely flat back to back.

82 0022 The same as 82 0018, but with non-rusting wire stitched heavy cloth backbone.



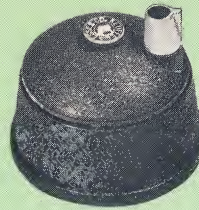
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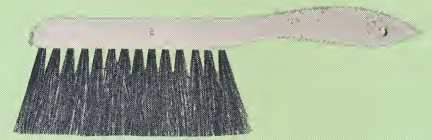
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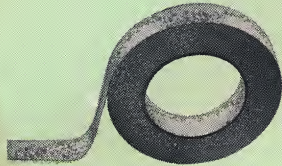
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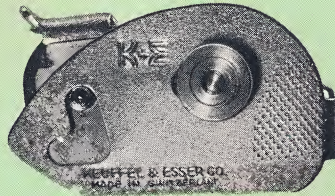
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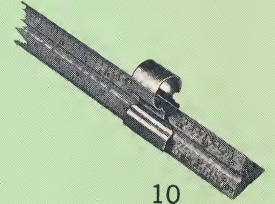
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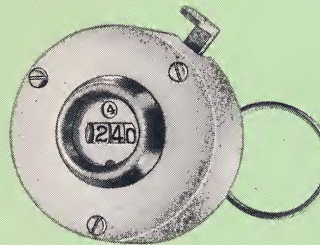
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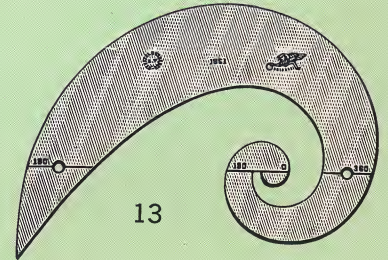
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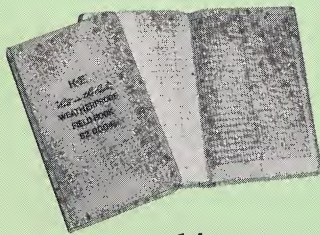
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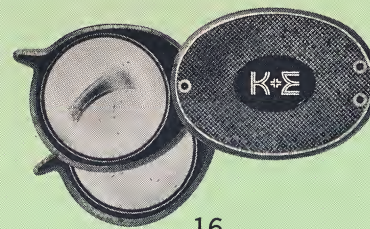
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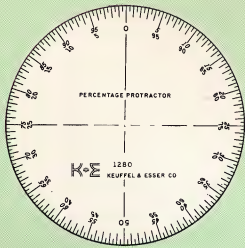
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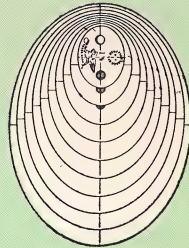
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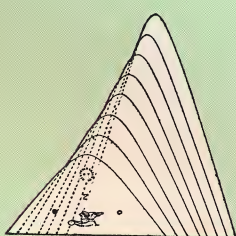
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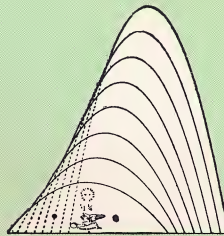
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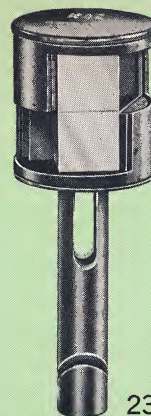
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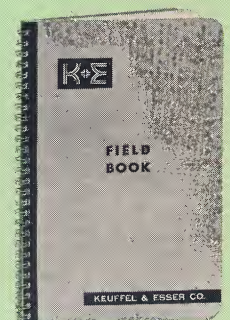
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A MESSAGE TO STUDENTS

THIS IS ...

Keuffel & Esser Co. manufactures over 9,000 products, a great many of which are useful to students in the fields of engineering ... mathematics ... science ... technology ... and the arts. This catalog may be your first introduction to K&E, so we would like to give you a few facts about our company.

Keuffel & Esser Co. is the world's largest manufacturer of supplies, equipment and materials for the engineer, scientist and technical specialist. We are currently in our 96th year in business — longer than any other American company in our field — and have achieved a reputation for the utmost in precision and dependability.

We begin working with professional people during their school and college years and continue doing so throughout their careers. We hope to be of service to you, and are pleased that you have this catalog and can become acquainted with our line.

Ask for K&E products and you can be sure of getting maximum value — the right quality at the right price.

THIS IS OPPORTUNITY...

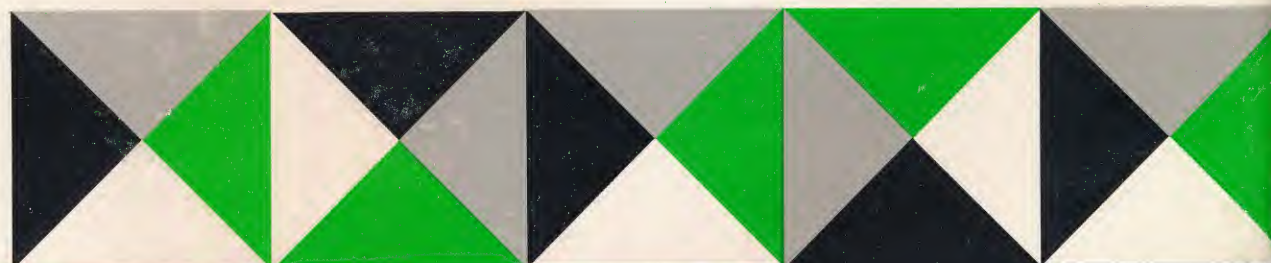
K&E offers challenging opportunities to graduates in the following important fields —

- Organic, physical, photographic chemistry
- Analytical chemistry
- Chemical engineering
- Mechanical engineering
- Plastics engineering
- Electronics engineering
- Sales engineering
- Physics (optics orientation)
- Mathematics
- Graphic Arts
- Photogrammetry
- Industrial engineering

Many of our staff members take advantage of our full tuition aid program to pursue advanced degrees.

We invite inquiries from all graduates whose background is in one of the above fields—either through your College Placement Bureau or directly to our Personnel Department, Hoboken, N. J.

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68 1251 Jet Log	21.00
68 1261 Jet Log Jr.	10.50
68 1576 Jet Math Polyphase ...	11.00
68 1210 Log Log Duplex Decitrig	29.70
68 1215	29.00
68 1220	26.00
68 1892 K - 12 Prep	2.25

POCKET SLIDE RULES

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68 1555 Duplex	\$ 8.50
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68 1586	6.50
68 1581	7.50
68 1648	5.75
68 1643	6.75
68 1791	5.25
68 1786	6.25

GRAPH SHEETS

Page 8

8½ x 11 in.		
	SHEETS	
46 0250 TO 1000	100	
46 7400	\$26.80	\$ 3.35
46 0090	26.80	3.35
12 5655	Pad of 25 sheets	\$ 1.00

11 x 16½ in.		
	SHEETS	
47 0460 TO 1000	100	
47 6490	\$53.60	\$ 6.70

8½ x 11 in.		
	SHEETS	
46 0253 TO 1000	100	
46 4412	\$26.00	\$ 3.25
46 4453		3.25
46 4493 TO 26.00		3.25

11 x 16½ in.		
	SHEETS	
47 0463 TO 1000	100	
47 6492	\$52.00	\$ 6.50

8½ x 11 in.		
	SHEETS	
46 0705 TO 1000	100	
46 5505	\$33.60	\$ 4.20

8½ x 11 in.		
	SHEETS	
46 4417 TO 1000	100	
46 4416	\$38.80	\$ 4.85

SPECIAL PURPOSE PAPER, CLOTH & FILMS

ALBANENE PENCIL SURFACE TRACING PAPER

Page 9

SHEETS		Hund.
10 5155 19 x 24 in.		\$15.95
22 x 30 in.		23.10
22 x 34 in.		25.45
24 x 36 in.		27.95
30 x 42 in.		38.55
Other sizes to order		

Roll		
10 5155 18 in. 5 yards		\$ 1.40
21 in. " "		1.60
24 in. " "		2.15
36 in. " "		2.55
42 in. " "		2.95

10 5155 24 in. 20 yards		\$ 7.00
30 in. " "		7.75
34 in. " "		8.25
36 in. " "		8.50
42 in. " "		9.70
54 in. " "		14.10

10 5155 24 in. 50 yards		\$15.85
30 in. " "		17.60
34 in. " "		18.75
36 in. " "		19.30
42 in. " "		22.00
54 in. " "		32.00

ALBANENE PENCIL & INK SURFACE TRACING PAPER

SHEETS		Hund.
10 7155 19 x 24 in.		\$15.95
22 x 30 in.		23.10
22 x 34 in.		25.45
24 x 36 in.		27.95
30 x 42 in.		38.55
Other sizes to order		

Roll		
10 7155 30 in. 20 yards		\$ 7.75
36 in. " "		8.50
42 in. " "		9.70

10 7155 30 in. 50 yards		\$17.60
36 in. " "		19.30
42 in. " "		22.00

Many items in this price list are identified by K & E Trade Marks.

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TRACING PAPER

Page 9

	Roll
10 5535 30 in. 20 yards	\$11.00
36 in. " "	12.10
42 in. " "	13.60
10 5535 30 in. 50 yards	25.00
36 in. " "	27.50
42 in. " "	31.00
10 5545 30 in. 20 yards	11.00
36 in. " "	12.10
42 in. " "	13.60
10 5545 30 in. 50 yards	25.00
36 in. " "	27.50
42 in. " "	31.00

CRYSTALENE, TRACING PAPER

10 8155 Sheets, sizes to order

	Roll
10 8155 18 in. 5 yards	\$ 1.15
21 in. " "	1.30
24 in. " "	1.75
36 in. " "	2.05
42 in. " "	2.30
108155 24 in. 20 yards	5.80
30 in. " "	6.35
34 in. " "	6.95
36 in. " "	6.95
42 in. " "	7.60
54 in. " "	10.20
10 8155 24 in. 50 yards	13.45
30 in. " "	15.10
34 in. " "	16.50
36 in. " "	16.50
42 in. " "	18.10
54 in. " "	24.15

10 8156 Sheets, sizes to order

10 8156 30 in. 20 yards	8.00
34 in. " "	8.65
36 in. " "	8.65
42 in. " "	9.55
10 8156 30 in. 50 yards	18.90
34 in. " "	20.40
36 in. " "	20.40
42 in. " "	22.40

PHOENIX TRACING CLOTH

BLUE

17 0453 Sheets, sizes to order

	Roll
17 0453 Rolls, 20 yards	
30 in.	\$33.50
36 in.	37.90
42 in.	45.80

WHITE

17 0153 Sheets, sizes to order

	Roll
17 0153 Rolls, 20 yards	
30 in.	\$33.50
36 in.	37.90
42 in.	45.80
54 in.	82.70

STABILENE FILM

For further information and prices write to:

Keuffel & Esser Co.
Educational Sales Dept.
Hoboken, New Jersey

SPECIAL PURPOSE PAPERS

Page 10

	Roll
LAMINENE	
58 1330 36 in. 20 yards	\$12.70
42 in. " "	14.90

LAMINENE

WITH CROSS SECTION LINES

58 1348 46 in. 20 yards	\$15.10
42 in. " "	17.05

TYPE-MASTER

Pkg. of 500

13 3155 8½ x 11 in.	\$17.10
8½ x 14 in.	19.25
9 x 12 in.	19.25
11 x 17 in.	33.75
12 x 18 in.	35.85

Pkg. of 250

13 3155 17 x 22 in.	\$32.34
18 x 24 in.	35.45

Pkg. of 100

13 3155 22 x 34 in.	\$26.65
24 x 36 in.	29.20
30 x 42 in.	41.05

DORIC DRAWING PAPERS

Sheets Rolls

White (Light Wt.) (Pkg. of 500)

15 2154 9 x 12 in. . \$	5.60
11 x 15 in. .	8.80
19 x 24 in. .	22.00

(Pkg. of 250)

22 x 30 in. . \$	16.50
24 x 36 in. .	21.00

White (Pkg. of 500)
(Medium Wt.)

15 2155 9 x 12 in. . \$	7.00
11 x 15 in. .	11.00
19 x 24 in. .	27.50

(Pkg. of 250)

22 x 30 in. . \$	20.60
24 x 36 in. .	26.25
50 yds. 36 in.	\$10.10
42 in.	12.10

Cream (Light Wt.) (Pkg. of 500)

15 7154 9 x 12 in. . \$	5.60
11 x 15 in. .	8.80
19 x 24 in. .	22.00

(Pkg. of 250)

22 x 30 in. . \$	16.50
24 x 36 in. .	21.00

Cream (Pkg. of 500)
(Medium Wt.)

15 7155 9 x 12 in. . \$	7.00
11 x 15 in. .	11.00
19 x 24 in. .	27.50

(Pkg. of 250)

22 x 30 in. . \$	20.60
24 x 36 in. .	26.25
50 yds. 36 in.	\$10.10
42 in.	12.10

SPECIAL PURPOSE PAPERS (Cont.)

	Sheets	Rolls
Green	(Pkg. of 500)	
(Medium Wt.)		
15 7255	9 x 12 in. .	\$ 7.00
	11 x 15 in. .	11.00
	19 x 24 in. .	27.50
	(Pkg. of 250)	
	22 x 30 in. .	\$20.60
	24 x 36 in. .	26.25
	50 yds. 36 in.	\$10.10
	42 in.	12.10

DORIC SKETCH PADS		<i>Each</i>
12 5555	Pad of 50 sheets	\$ 1.40
12 5655	" " 25 "	1.00
12 5705	" " " "	1.00
12 5405	" " 50 "	1.70
12 5425	" " " "	1.70
12 5445	" " " "	1.70
12 5465	" " " "	1.70
12 5485	" " " "	1.70
12 5005	" " 25 " .....	.65
12 5025	" " " " .....	.65
12 5045	" " " " .....	.65
12 5065	" " " " .....	.65
12 5085	" " " " .....	.65
12 5205	" " 50 "	1.05
12 5225	" " " "	1.05
12 5245	" " " "	1.05
12 5265	" " " "	1.05
12 5285	" " " "	1.05

SWALLOW SKETCH PADS		
12 2356	Pad of 50 sheets	\$ 1.35
12 2371	" " 100 "	1.60
12 2374	" " " "	3.20
12 2381	" " " "	1.80
12 2384	" " " "	3.40
12 2387	" " " "	6.60
12 2391	" " " "	2.00
12 2394	" " " "	3.70
12 2397	" " " "	7.00

ALBANENE SKETCH PADS		
Pads of 50 Sheets		
10 5351	.....	\$ 2.20
10 5352	.....	4.00
10 5353	.....	4.35
10 5356	.....	5.50
10 5357	.....	9.40
10 5611	.....	2.30
10 5613	.....	4.55
10 5621	.....	2.30
10 5623	.....	4.55
10 5631	.....	2.30
10 5633	.....	4.55
10 5641	2.30
10 5643	4.55
10 5651	2.30
10 5653	4.55

EARTH-SCIENCE TECHNOLOGY EQUIPMENT

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For further information and prices write to:

KEUFFEL & ESSER CO.
Educational Sales Dept.
Hoboken, New Jersey

DRAWING INSTRUMENT SETS

Pages 12 & 13

MARK I DRAWING INSTRUMENT SETS

	<i>Each</i>
55 0104	\$24.50
55 0052	32.50
55 0130	47.50

MARK II DRAWING INSTRUMENT SET

	<i>Each</i>
55 0234	\$29.00

MARK III DRAWING INSTRUMENT SET

	<i>Each</i>
55 0260	\$23.50

PARAGON DRAWING INSTRUMENT SET

	<i>Each</i>
55 0000	\$103.00

ARROW DRAWING INSTRUMENT SET

	<i>Each</i>
57 4285	\$27.00

JUPITER DRAWING INSTRUMENT SETS

	<i>Each</i>
55 0286	\$20.00
55 0312	14.50

FAVORITE DRAWING INSTRUMENT SET

	<i>Each</i>
55 0390	\$23.00

APOLLO DRAWING INSTRUMENT SET

	<i>Each</i>
55 0442	\$17.00
55 0468	18.00

HERMES DRAWING INSTRUMENT SET

	<i>Each</i>
55 0494	\$13.75

DRAWING ACCESSORIES (Cont.)**DRAWING BOARDS**

	Each
64 1215 12 x 17 in.	\$ 2.10
16 x 21 in.	3.20
18 x 24 in.	3.90
20 x 26 in.	4.80
23 x 31 in.	6.40

DORIC PARALLEL STRAIGHTEDGE

Page 17	Each
56 4150 36 in.	\$14.10
42 in.	14.40
48 in.	15.35
54 in.	16.30
60 in.	17.35
72 in.	19.95
84 in. (to order)	23.25
96 in. (to order)	26.80

PLANIMETERS

	Each
62 0000	\$45.00
62 0005	45.50

COMBINATION DRAWING BOARD

	Each
64 1300 12 x 17 in.	\$ 9.00
64 1301 16 x 21 in.	10.50
64 1302 18 x 24 in.	12.50
64 1303 20 x 26 in.	14.50
64 1304 23 x 31 in.	19.00

PANTOGRAPH

	Each
57 4296	\$11.50

LEROY LEAD POINTER

	Each
58 0548	\$.75

SCALES

Page 18	Each
56 3778 Triangular, Plastic....	\$ 3.75
56 3780 " "	3.75
56 3782 " "	4.00
56 3832 " "	2.00
56 3834 " "	2.00
56 3836 " "	2.00
56 3846 Triangular, Hardwood	1.35
56 3850 " "	1.35
56 3852 " "	1.35
56 3202 Flat, PARAGON	5.10
56 3218 " "	7.25
56 3228 " "	5.10
56 3252 " "	5.10
56 3254 " "	5.10
56 3264 " "	5.10
56 3280 " "	5.10
56 3568 Flat, Plastic	2.50
56 3572 " "	4.25
56 3576 " "	2.50
56 3582 " "	2.50
56 3584 " "	2.50
56 3592 " "	2.50
56 3596 " "	2.50
56 3216 Pocket Size, PARAGON	5.10
56 3240 " "	5.10
56 3242 " "	5.10
56 3220 " "	3.00
56 3570 Pocket Size, Plastic .	2.25
56 3578 " "	2.25
56 3580 " "	2.25
56 3574 " "	2.00
56 3594 " "	2.00
56 3494 " "	5.10
56 3496 " "	5.10

PARAGON JR.**DRAFTING MACHINE**

Page 19	Each
60 1125 15 in. Desk size	\$72.00
60 1130 18 in. " "	72.00

**PARAGON AUTO-FLOW
CHALKBOARD DRAFTING
MACHINE**

	Each
60 0425 Board ht. 30 in.	\$176.50
60 0430 Board ht. 36 in.	178.50
60 0435 Board ht. 42 in.	184.50
60 0440 Board ht. 48 in.	186.50

Other Sizes Special

**HORIZONTAL RAILS FOR
PARAGON AUTO-FLOW
CHALKBOARD DRAFTING
MACHINE**

	Each
60 0448 40 in. long	\$ 19.00
60 0449 50 " "	24.50
60 0450 60 " "	30.00
60 0460 72 " "	35.50
60 0470 84 " "	41.00

DRAFTING MACHINE SCALESFor further information and prices
write to:KEUFFEL & ESSER CO.
Educational Sales Dept.
Hoboken, New Jersey**TRIANGLES**

Page 20	Each
57 0220 (4 in.) Luxylite	\$.75
(6 in.) " .....	.95
(8 in.) "	1.05
(10 in.) "	1.65
(12 in.) "	2.30
(14 in.) "	3.25
(16 in.) "	4.40
(18 in.) "	6.00
57 0252 (4 in.) Acrylic .....	.40
(6 in.) " .....	.50
(8 in.) " .....	.60
(10 in.) " .....	.85
(12 in.) "	1.25
57 0272 (4 in.) Acrylic .....	.35
(6 in.) " .....	.40
(8 in.) " .....	.45
(10 in.) " .....	.65
(12 in.) " .....	.95
57 0292 (4 in.) Luxylite .....	.95
(6 in.) "	1.05
(8 in.) "	1.65
(10 in.) "	2.30
(12 in.) "	3.25
(14 in.) "	4.40
(16 in.) "	6.00
(18 in.) "	7.60
57 0324 (4 in.) Acrylic .....	.50
(6 in.) " .....	.60
(8 in.) " .....	.85
(10 in.) "	1.25
(12 in.) "	1.80

TRIANGLES (Cont.)

Page 20

57 0344 (4 in.) Acrylic	\$.40
(6 in.) " .....	.45
(8 in.) " .....	.65
(10 in.) " .....	.95
57 0200 Section Liner Triangle	3.15
57 0212 (8 in.) Adjustable Triangle.....	6.30
57 0382 Lettering Triangle.....	2.05
57 0394 Parallel Line Tracer .	.55

STEEL TAPESPage 20 *Each***WYTEFACE 90**

90 0306 (6 in.)	\$ 1.75
90 0308 (8 in.)	2.00
90 0310 (10 in.)	2.25
90 0312 (12 in.)	2.50

LST LEVEL SQUARE TAPE*Each*

90 0510 10 ft.	\$ 1.98
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CAPE MAY WYTEFACE*Each*

90 0706 (6 in.) 1/2 in. blade ...	\$ 1.19
90 0708 (8 in.) " " ...	1.39
90 0710 (10 in.) " " ...	1.69
90 0712 (12 in.) " " ...	1.98

90 0810 (10 in.) 3/4 in. blade .	2.59
90 0812 (12 in.) " " .	2.98

FAVORITE WYTEFACE*Each*

90 0000 25 ft.	\$ 4.49
90 0001 50 ft.	5.49
90 0002 75 ft.	6.49
90 0003 100 ft.	7.49

with End Fastener

90 0016 25 ft.	4.49
90 0017 50 ft.	5.49
90 0018 75 ft.	6.49
90 0019 100 ft.	7.49

CROWN WYTEFACE*Each*

86 0246 25 ft.	\$ 5.80
86 0247 50 ft.	7.40
86 0248 75 ft.	9.30
86 0249 100 ft.	11.00

with End Fastener

86 0261 25 ft.	5.80
86 0262 50 ft.	7.40
86 0263 75 ft.	9.30
86 0264 100 ft.	11.00

BOSS WYTEFACE*Each*

90 0070 50 ft.	\$ 4.69
90 0071 100 ft.	6.44

with End Fastener

90 0072 50 ft.	4.69
90 0073 100 ft.	6.44

DORIC LETTERING SETS

Page 21

Each

61 3135	\$15.00
61 3130	9.50

LEROY LETTERING EQUIPMENT**SETS**

Page 21

Each

61 2915	\$ 56.85
61 2910	53.25
61 2905	77.75
61 2900	103.65
61 2920 Basic Set	37.50
61 2940	47.00
61 2935	44.40
61 2930	64.15
61 2925	81.70

RESERVOIR PENS*Reservoir Pen Sets**Each*

61 0060	\$21.00
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*Individual LEROY Pens**Sizes 00 through 5*

61 0050	3.50
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.020 LEROY LETTERING PENCIL

Page 21

61 0200	\$ 4.50
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USEFUL ACCESSORIES

Pages 22 & 23

*Each**Dozen***ABC DRY CLEAN PAD**

58 0660	\$.65	\$ 6.24
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ABC DRY CLEAN JR. PAD*Each**Card of 10 Pads*

58 0664 \$.35	\$ 3.50 per card
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DRAFT-CLEAN POWDER*Each**Dozen**Gross*

58 0684	\$.80	\$ 8.16
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ERASERS

58 0608 Pink

Pearl

\$.20	\$ 1.80	\$17.28
58 0600 Tad... .17	1.63	16.32

TRU-POINT LEAD POINTER*Each**1/2 Dozen*

58 0510	\$2.95	\$15.90
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USEFUL ACCESSORIES (Cont.)

DUSTING BRUSH	<i>Each</i>	
58 0710	\$.85

DRAFTING TAPE	<i>Each</i>	
58 1596	\$	1.82

PAPER CUTTER	<i>Each</i>	
58 0800	\$	2.10

LEROY INK CARTRIDGE	<i>Each</i>	<i>Dozen</i>	
58 0005 .....	\$	.35	\$ 3.84

TACK LIFTER	<i>Each</i>	
58 0824	\$	1.10

SCALE CLIP	<i>Each</i>	
56 3864 .....	\$	.30

DULSEAL	<i>Roll</i>	
58 1360 20 yd. Rolls		
24 in.	\$15.50	
12 in.	7.80	
8 in.	5.20	
4 in.	2.90	

HAND TALLY REGISTER	<i>Each</i>	
89 1100 Reading to 999	\$	4.75
89 1102 Reading to 9999		6.25

LOGARITHMIC SPIRAL CURVE	<i>Each</i>	
57 1000	\$	3.45

"RITE IN THE RAIN"			
WEATHERPROOF FIELD BOOKS	<i>Each</i>	<i>Dozen</i>	
82 0004	\$3.50	\$38.50	
82 0036	3.50	38.50	

RECON COMPASS

	<i>Each</i>	
80 0090	\$16.00	

POCKET MAGNIFYING GLASS

	<i>Each</i>	
83 0354 1 lens, 1 in. dia.	\$	1.05
83 0357 1 lens, 1½ in. dia.		1.65
83 0360 2 lenses, 1 in. dia. ..		1.80
83 0363 2 lenses, 1½ in. dia. ..		3.15

MAP MEASURE	<i>Each</i>	
62 0320	\$11.50	

PERCENTAGE PROTRACTOR	<i>Each</i>	
57 0548	\$	1.75

TEACHERS ELLIPSES	<i>Each</i>	
57 1001	\$	9.20

TEACHERS HYPERBOLAS	<i>Each</i>	
57 1002	\$	7.25

TEACHERS PARABOLAS	<i>Each</i>	
57 1003	\$	7.25

ANGLE MIRRORS AND PRISM	<i>Each</i>	
80 0243	\$26.50	
80 0248	26.50	
80 0259	15.00	

FIELD SURVEY NOTEBOOKS	<i>Each</i>	
82 0018	\$.70
82 002265



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